

Manufacturers Record

REFERENCE
DO NOT LOAN

The South Today

*the greatest opportunity for
American manufacturers*

The natural resources of the South provide an opportunity for development unequalled elsewhere.

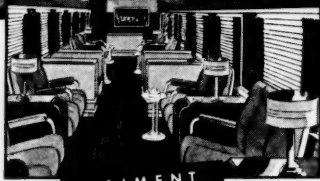
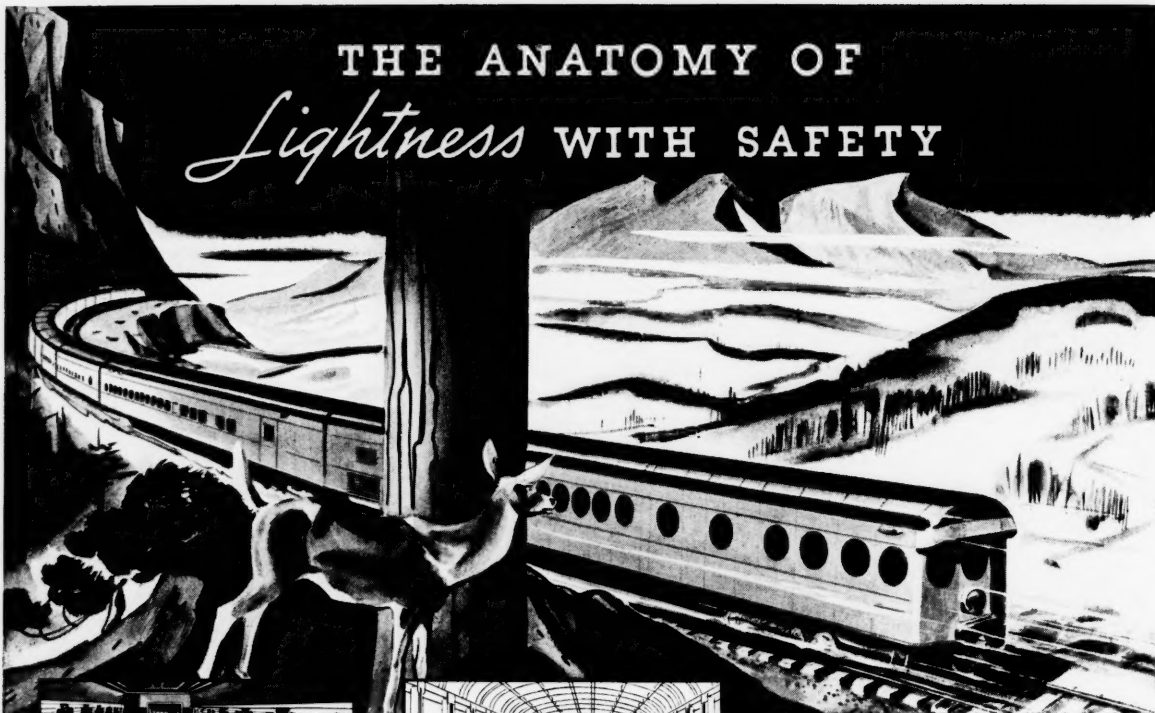
Here are timber for paper and a diversity of chemical processes, as well as the building trades; minerals for every variety of manufacture in abundance and readily accessible; power at reasonable rates, a mild climate and intelligent American labor.

The progress made and under way, of which manufacturers are becoming increasingly aware, is only the beginning of new wealth creation that will exceed anything of the past.

In this growth is seen an expanding market for equipment and supplies of every description. Many producers admit the South is their best field for sales in 1939.

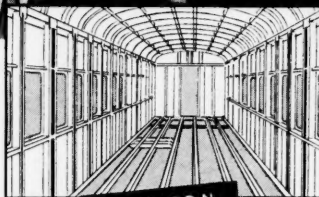
DECEMBER, 1938

THE ANATOMY OF *Lightness* WITH SAFETY



RAIMENT

Thirty-six and one-half hours from Chicago to the coast in luxury! **AND IN SAFETY!** These Aluminum trains are the pace-setters in the new era of railroad transportation. But all the Aluminum you actually see is in the decorative details of the beautiful interiors. The secret of their lightness, their low center of gravity, their safeness, is in the construction you don't see... hidden under the paint, the carpet, the glamor...



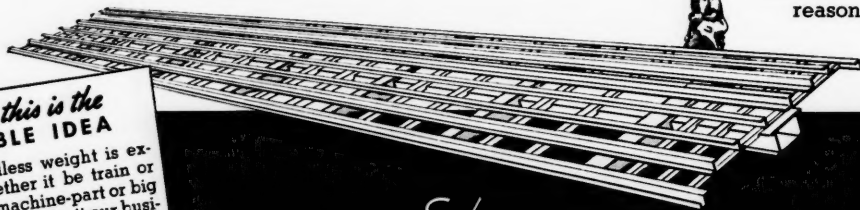
SKELETON

This is how an Aluminum car looks under construction. Strong alloys of Alcoa Aluminum form the entire framework, walls, ceilings, roofs and floors of the cars. Each car weighs only half as much as an old-fashioned car. Yet no whit of the safety that is traditional in American railroading is sacrificed. For with Alcoa Aluminum, builders attain lightness by using thick members that are both stiff and strong. Nature made Aluminum light. Builders don't have to skimp on metal to stay light.

BACKBONE

Railroad standards, based on laws of the United States Post Office Department, require that the underframes of railway passenger cars shall stand 200 tons compression from end to end with proper factor of safety. The Alcoa Aluminum backbone alone in this underframe stands over 440 tons without buckling. That's super-safety, proved by actual test.

It's nothing but the soundest kind of engineering: The alloys of Alcoa Aluminum are naturally light. Research has made them very strong. Great investments in rolling mills and extrusion presses have made the necessary shapes available. The alloys of Alcoa Aluminum are fabricated easily by riveting or welding. The inevitable result is lightness with safety at reasonable cost.



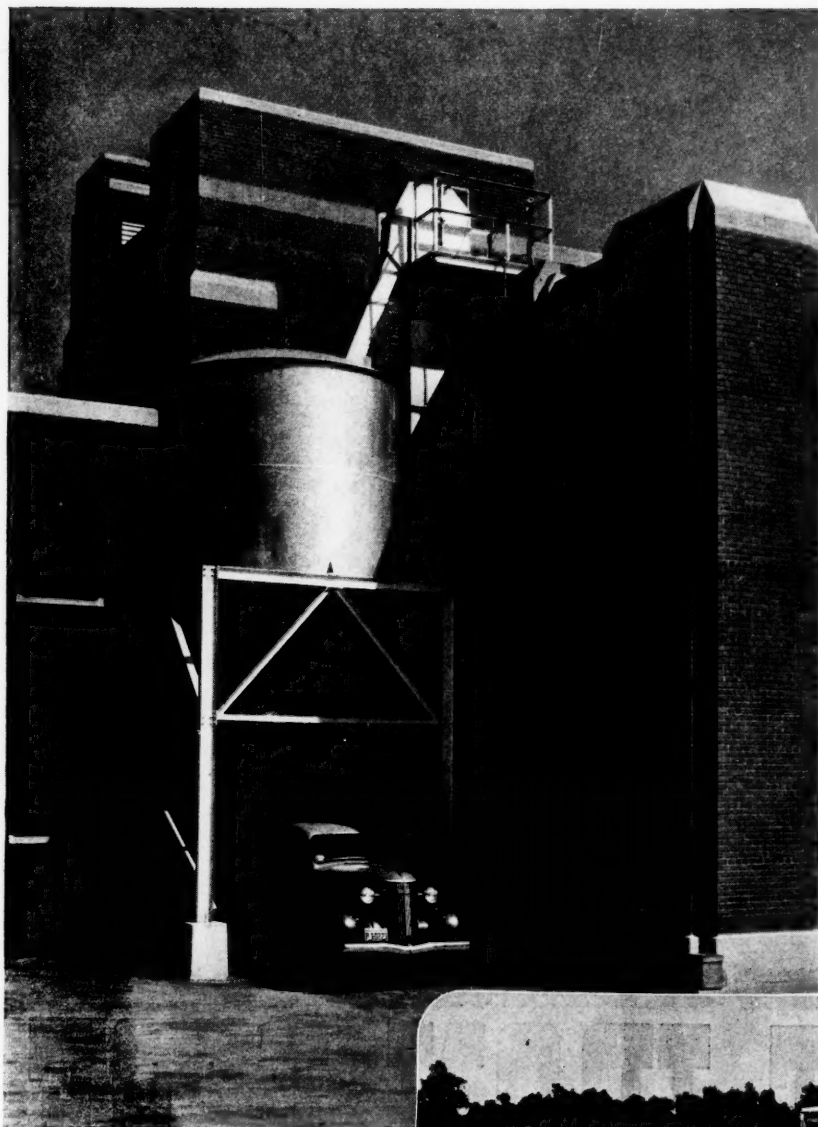
.. and this is the LIFTABLE IDEA

Moving needless weight is expensive, whether it be train or truck, small machine-part or big equipment. We make it our business to be genuinely helpful in attaining lightness, whether your problem is in ounces or in tons. Aluminum Company of America, 2109 Gulf Bldg., Pittsburgh, Pa.

THE *Safe* WAY TO LIGHTNESS

ALCOA ALUMINUM





Sure

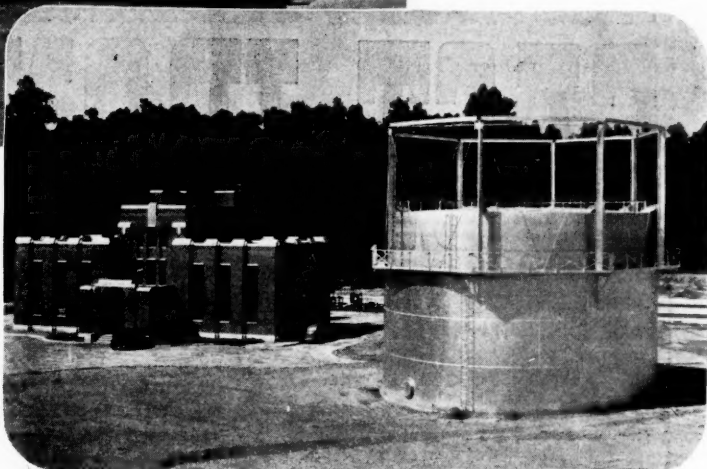
you can use
**STEEL TANKS
AT SEWAGE
DISPOSAL
PLANTS!**

A steel tank, as shown at the left, provides a convenient method of handling sludge at sewage disposal plants. Steel construction can also be used for digesters, gas holders and elevated tanks to provide water for general service.

Steel is impervious, preventing seepage. Welding eliminates the danger of leakage at the joints and uneven settlement will not cause cracking.

When painted regularly the cost of maintaining a steel structure is low and long life results in a low annual investment cost.

GAS produced in digesters at disposal plants may be utilized for heating purposes or generating power for pumping by installing a holder to provide a uniform supply. The 30,000 cu. ft. lift type holder at the right is used for this purpose. Where it is desirable to store the gas under pressure, Hortonspheres are often installed. When planning a modern sewage disposal plant, write for our estimates on the steel tanks and plate work.



Elevated steel sludge tank (top) and 30,000 cu. ft. lift type gas holder of welded construction at Greensboro, N. C. sewage disposal plant.

CHICAGO BRIDGE & IRON COMPANY

Birmingham1530 North Fiftieth Street
Dallas1408 Liberty Bank Bldg.
Houston2919 Main Street
Tulsa1611 Hunt Bldg.

New York3313-165 Broadway Bldg.
Cleveland2216 Rockefeller Bldg.
Chicago2106 Old Colony Bldg.
San Francisco1040 Rialto Bldg.

Philadelphia1619-1700 Walnut Street Bldg.
Detroit1510 Lafayette Bldg.
Boston1510 Consolidated Gas Bldg.
HavanaEdificio Abreu 402

B-623

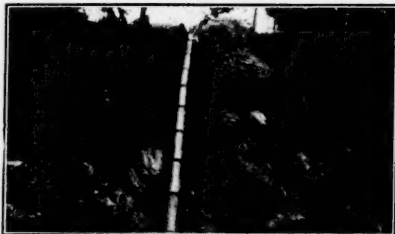
Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PA.

**NOTHING TAKES
THE PLACE OF
LIGHT**



**NOTHING TAKES THE PLACE OF
CAST IRON PIPE**

**THE STANDARD MATERIAL
FOR UNDERGROUND MAINS**



Laying 36" Cast Iron Pipe at Lynchburg, Va.
—part of a 22-mile water transmission main.

IN the olden days, when the first cast iron underground main was installed, men read by the light from a candle or from oil burning in a shallow vessel. A century later came the lamp chimney, followed by other improvements in artificial lighting, most of which are now obsolete. Yet that first cast iron main is still in service and cast iron pipe, essentially the same material as in 1664, is today the recognized standard for underground mains. Nothing has taken its place. A pipe material must meet 10 requirements for long life and economical service. Some materials meet some of these requirements but only cast iron pipe meets them all.



Look for the "Q-Check" registered trade mark. Cast iron pipe is made in diameters from 1 1/4 to 84 inches.

THE CAST IRON PIPE RESEARCH ASSOCIATION, THOMAS F. WOLFE, RESEARCH ENGINEER, 1015 PEOPLES GAS BUILDING, CHICAGO, ILLINOIS

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**DECEMBER
1938**

Volume CVII No. 12

MANUFACTURERS RECORD

Devoted to the Upbuilding of the
Nation Through the Development
of the South and Southwest as the
Nation's Greatest Material Asset

Published Monthly

by the

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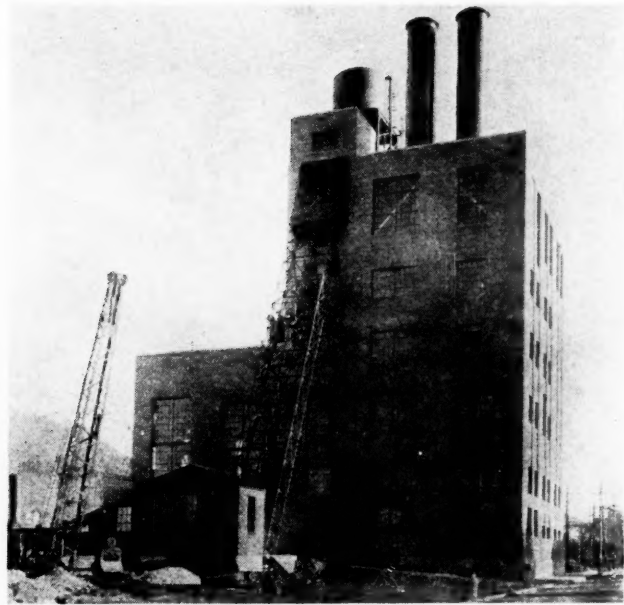
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address to avoid delay in service.

**PUBLISHERS OF CONSTRUCTION AND
BLUE BOOK OF SOUTHERN PROGRESS**

Member
A.B.C.

DECEMBER NINETEEN THIRTY-EIGHT



The new 20,000 kilowatt power plant at Cumberland, Md. for Potomac Edison System.

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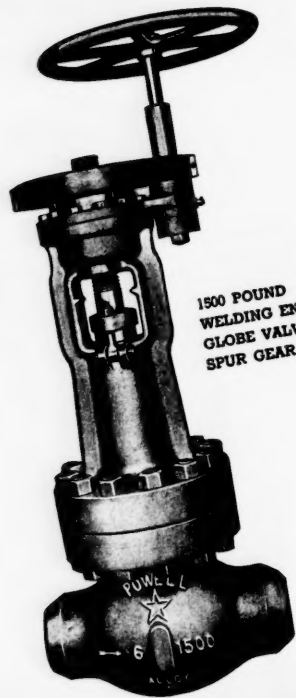
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**"EXACTING ENGINEERS
PREFER POWELL
STEEL VALVES"**



1500 POUND
WELDING END
GLOBE VALVE
SPUR GEAR OPERATED



1500 POUND
WELDING END
GATE VALVE
WITH BY-PASS
AND MOTOR OPERATED

Powell steel valves have made a definite mark in the engineering world for greater efficiency in low and high pressure control equipment. Write for detailed information regarding your particular problem!

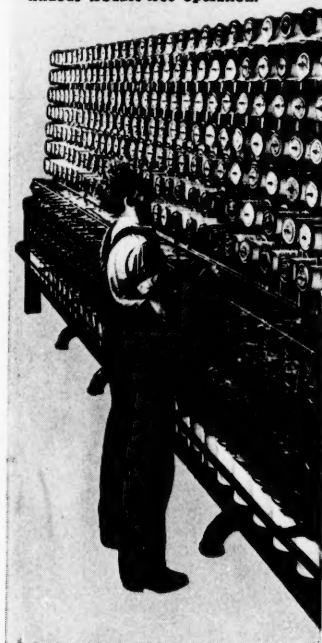
POWELL VALVES

THE WM. POWELL CO. CINCINNATI, OHIO

**"For 25 years, GULF LUBRICANTS
have helped us keep our equipment operat-
ing like new" ...SAYS THIS MILL SUPERINTENDENT**



For the proper lubrication of the cable twisting frame shown below, which makes a 12-ply cord, the Gulf engineer recommended Gulf Legion Oil "D" and Gulf Supreme Cap Grease No. 3. These two quality lubricants have helped to keep this equipment in continuous trouble-free operation.



Listen to the new Gulf radio program—**THE PASSING PARADE**, with John Booth Nesbit—every Sunday evening, Columbia network.

**"It has paid us to follow the GULF
Engineer's recommendations"**

"OUR mill is the oldest operating cotton mill in this state—but, thanks to Gulf's quality lubricants, most of our machines are still mechanically as good as new. Our maintenance costs are still very low," says this mill superintendent.

To meet the needs of modern machinery, Gulf has perfected new and better lubricants. No matter what type of equipment you operate there are, in Gulf's broad line of more than 400

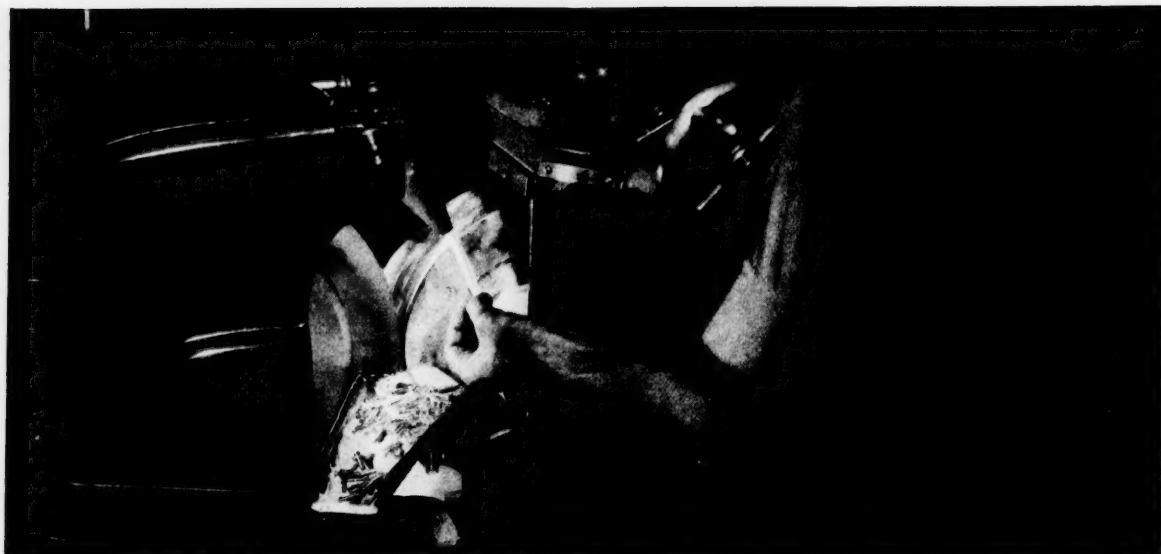
brands of oils and greases, exactly the right lubricants for each machine in your plant.

Let a Gulf engineer recommend the proper application of lubricants best suited to *your* equipment. You will benefit from this careful attention to lubrication by lower power costs, less maintenance expense and better production from each machine. Why not take advantage of this money-saving service at once?

**GULF OIL CORPORATION
GULF REFINING COMPANY**

GENERAL OFFICES: GULF BUILDING, PITTSBURGH, PA.





On All Types of O. D. Grinding

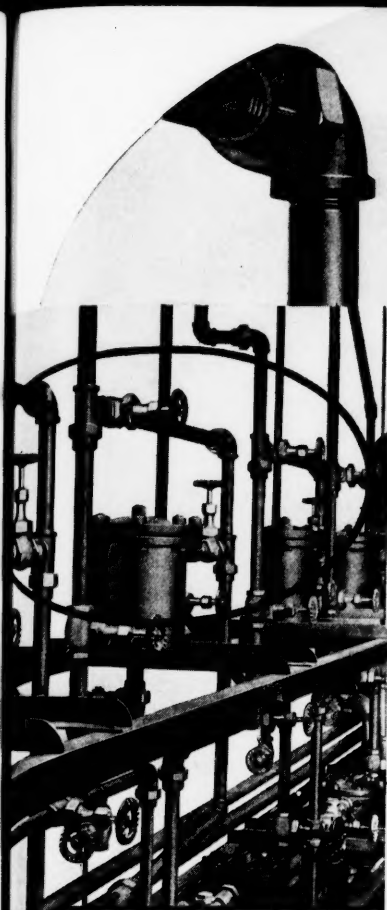
The Norton "B-E" Wheel Is Breaking Records

FAST "spark out"—that's the result you can expect from the Norton "B-E" bonded O. D. grinding wheels. Try these fast cutting wheels on your centerless and cylindrical grinding operations. The patented "B-E" bond is an exclusive Norton development.

NORTON COMPANY, WORCESTER, MASS.

W-679



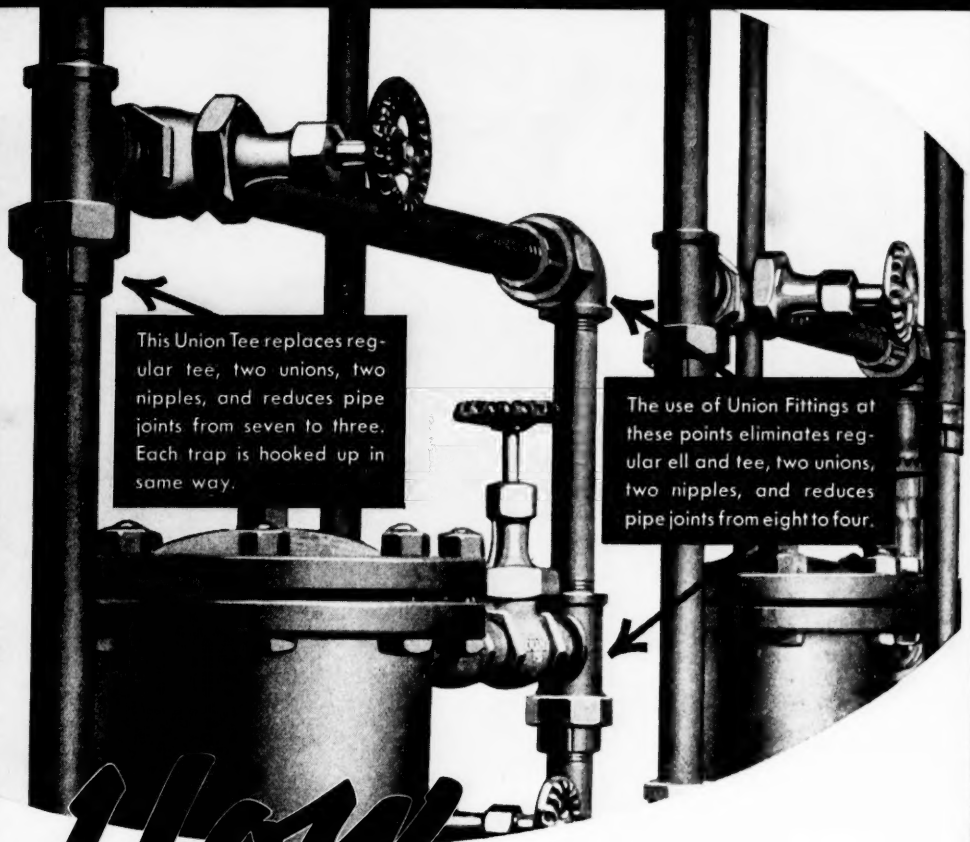


A comparison of piping materials and pipe joints required to hook up this bank of steam traps—

	—with— Union Fittings		—with— Regular Fittings	
	Quan.	Pipe Jts.	Quan.	Pipe Jts.
Ells	1	2	13	26
Union Ells	12	24		
Tees			11	33
Union Tees	10	30		
Unions			26	52
Nipples	16	32	43	86
TOTALS	39	88	93	197

99 9,996,551 %
10,000,000 %

of Crane fittings are found fit. Details in folder sent upon request.



This Union Tee replaces regular tee, two unions, two nipples, and reduces pipe joints from seven to three. Each trap is hooked up in same way.

The use of Union Fittings at these points eliminates regular ell and tee, two unions, two nipples, and reduces pipe joints from eight to four.

How

CRANE UNION FITTINGS

SAVE MATERIAL, TIME AND LABOR

The use of union fittings in piping systems is often overlooked. They are valuable even in simple hookups, but in more elaborate layouts, their advantages are emphasized. Because a single union fitting ordinarily serves the same purpose as a tee or elbow, union and nipple, installation costs are minimized—in material, time and labor. Union fittings reduce the number of threaded joints—giving greater safety. Pipe lines gain a workmanlike makeup that adds to plant appearance.

Depend on Crane-Quality union fittings to help keep your liquid, air, and vapor lines at peak efficiency always. The amazing standard of perfection that Crane has attained in the manufacture of millions upon millions of fittings of every type yearly, is strong assurance of their unflinching, trustworthy performance. You'll find that Crane-Equipment throughout your plant brings greatest piping satisfaction, because—in fittings as in valves—

IT'S WHAT'S INSIDE THAT COUNTS!

CRANE

VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

CRANE CO., GENERAL OFFICES: 836 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

NATION-WIDE SERVICE THROUGH BRANCHES AND WHOLESALEERS IN ALL MARKETS

CRANE SCREWED FITTINGS FOR POWER PLANTS AND FACTORIES

Crane's line of fittings includes not merely the few hundred types and sizes in most common use, but a total of more than 10,000 separate and distinct items in cast and malleable iron.



ELBOWS—90°, 67½°, 60°, 45°, 30°, 22½°, 11¼°, and 5¼°. Street, Long Sweep, Side Outlet, Drop, Hub Vent



TEES—Service, Four-Way, Drop Tees, Long Sweep, Double Sweep, Wash Tray



COUPLINGS—Right Hand, Right and Left, Half (Also Wrought Iron), Reducers, Increasers



UNION FITTINGS—Male and Female, 90° and 45° Elbows, Tees with Union or Run or Outlet



BUSHINGS—Outside and Inside Hexagon, Face, Eccentric, Double Tapped



PLUGS—Square Head, Solid, Countersunk, Bar, Barrel



NIPPLES—Close, Short, Long, Tank



UNIONS—Ground Joint, Gasket Type, Female, Male and Female, Air-Pump

A CRANE FITTING FOR EVERY PURPOSE—The screwed fittings shown above are only a few of the scores of different types and modifications. The complete Crane line

includes banded and plain patterns, black or galvanized, in a wide range of straight and reducing sizes, in four pressure classes in malleable iron and five in cast iron.



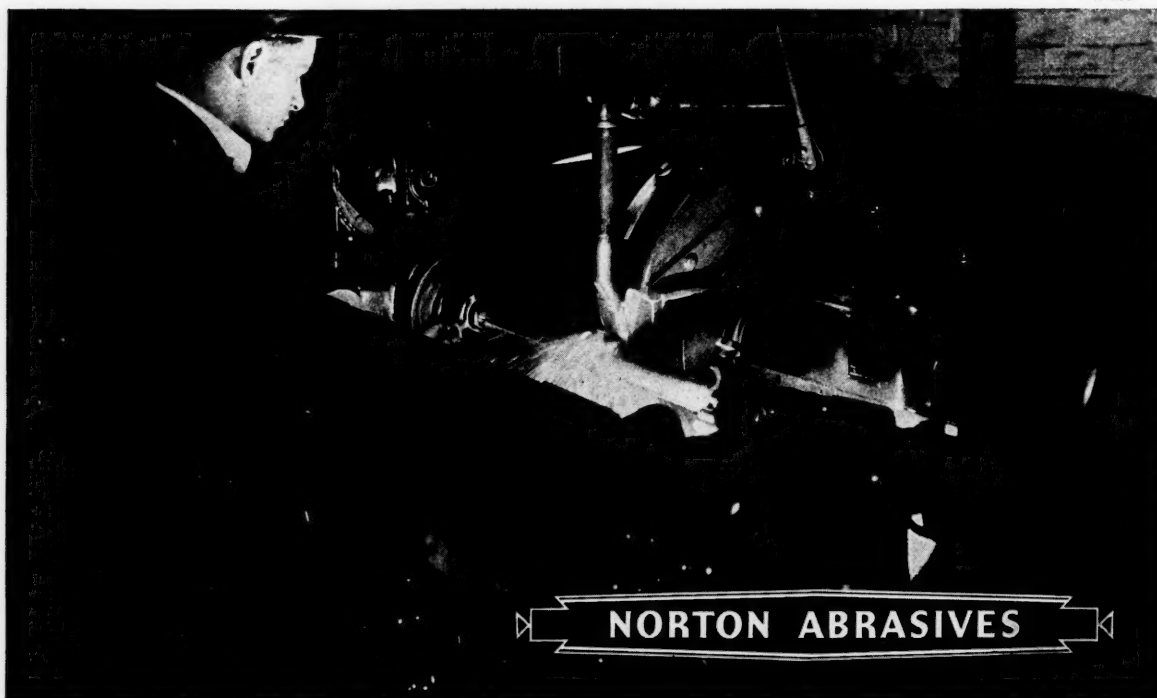
On All Types of O. D. Grinding

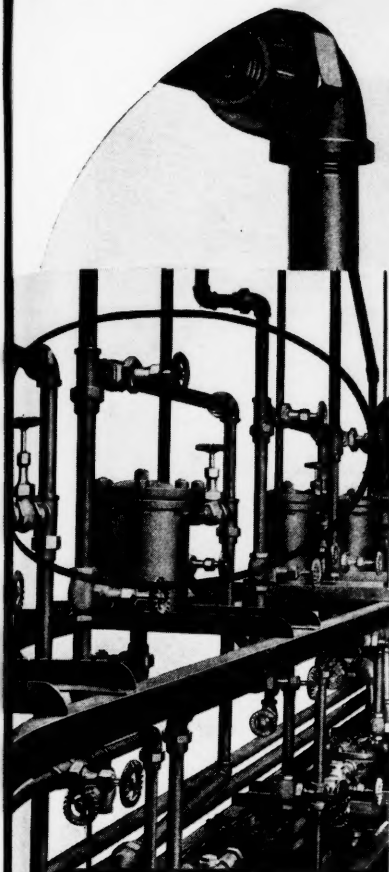
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BUSHINGS—Outside and Inside Hexagon, Face, Eccentric, Double Tapped

PLUGS—Square Head, Solid, Countersunk, Bar, Barrel

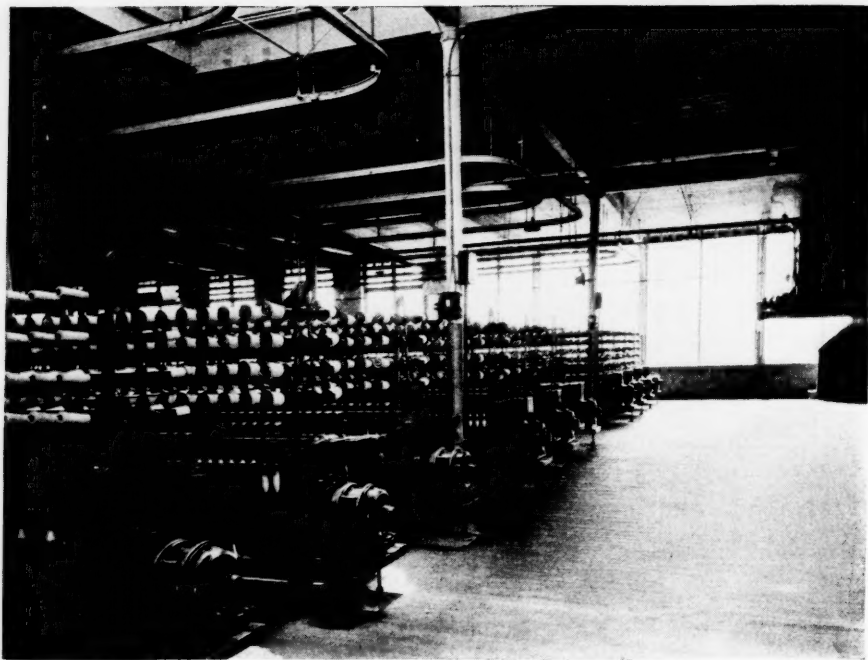
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Northern Hard Maple floor in "twister" room of the Avondale Mills, at Sylacauga, Alabama, which were designed by J. E. Sirrine & Company, of Greenville, South Carolina.



J. E. SIRRINE & CO., ENGINEERS, SAY: *"We have found Northern Maple a most satisfactory flooring for textile mills"*

When an engineering firm of wide experience says Northern Maple is a "Most satisfactory" flooring, you *know* it's right for you. For the engineer has seen it perform under all sorts of circumstances, in many different mills.

He knows Northern Maple checks on every count. So tough-fibred, tight-grained, it is remarkably resistant to abrasion—will not splinter, splinter, or develop ridges, even under the wear of heavy steel-castered mill trucks. Its lasting smoothness speeds up traffic, creates no dust to injure machinery, and, properly finished, requires brushing alone to clean. It simplifies alterations, machinery shifting and renewal.

Employees, too, find Hard Maple ideal.

Light-reflecting and sound-absorbing—warm, dry and resilient—clean and sanitary. It slows up fatigue, protects health, pleases the eye—in every way contributes to workers' comfort, efficiency, good will.

Everybody's happy when you lay **MFMA** Hard Maple—architect, builder, employee, and owner. You can make sure your flooring is genuine Northern Hard (**MFMA**) Maple, under Association grade supervision and guarantee. This is simply done, by specifying **MFMA*** Maple and looking for this association trademark on the flooring you receive.

See our catalog data in Sweet's, Sec. 11/76.
 Write for folder describing heavy-duty finishes for old or new floors, which seal Maple's surface and further reduce cleaning costs.

****To be sure of Association guaranteed grading, specify and look for the MFMA trademark (indented and stamped). The following manufacturers are licensed to use it:**

Beck, August C. Co., Milwaukee, Wis.
 Brown Dimension Co., Manistique, Mich.
 Bruce, E. L. Co., Memphis, Tenn.
 (Mill at Reed City, Mich.)
 Connor Lumber & Land Co., Laona, Wis.
 (Sales Office, Marshfield, Wis.)
 Farrin Lumber Co., M. B., Cincinnati, O.
 Holt Hardwood Co., Oconto, Wis.
 Kerry & Hanson Flooring Co., Grayling, Mich.
 Kneeland-Bigelow Co., Bay City, Mich.
 Kneeland-McLurg Flooring Co., Phillips, Wis.
 North Branch Flooring Co., Chicago, Ill.
 Oval Wood Dish Corp., Tupper Lake, N. Y.
 Robbins Flooring Co., Rhineland, Wis.
 Stephenson Company, L., Wells, Mich.
 Wells, J. W. Lumber Co., Menominee, Mich.
 Wisconsin Land & Lbr. Co., Hermansville, Mich.
 Yawkey-Bissell Lumber Co., White Lake, Wis.

Floor with **MFMA Maple**



**MAPLE FLOORING MANUFACTURERS
 ASSOCIATION**

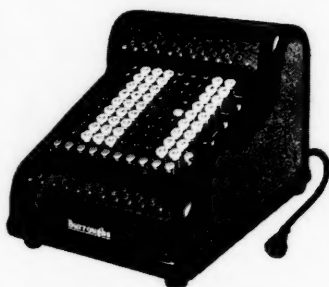
1797 McCormick Building, Chicago, Illinois

MANUFACTURERS RECORD FOR



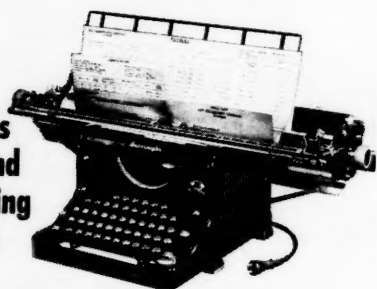
**Burroughs
Labor Computing
and Accounting
Machine**

**Burroughs
Low-Cost
Payroll Accounting
Machine**



**Burroughs
Electric
Adding
Calculator**

**Burroughs
Payroll and
Form Writing
Machine**



**Burroughs
Payroll Accounting
Machine**

Burroughs

**covers the entire range of
WAGE AND HOUR
RECORDS and STATISTICS
along with all payroll records
and labor distribution**

Burroughs machines provide these five important records, including wage and hour statistics, in a fraction of the time required by ordinary methods:

1. Individual Employee's Hour and Earnings Record.
2. Individual Employee's Pay Statement or Receipt.
3. Individual Employee's Pay Check or Envelope.
4. Departmental or Group Payroll Summary Sheet.
5. Departmental or Group Payroll Check Register.

If desired, *all five* can be prepared on a single machine *in one operation*, under any one of several plans.

To determine the particular machine and plan that will fit your requirements at the lowest cost, call the local Burroughs representative. Or, if you prefer, write to—

BURROUGHS ADDING MACHINE COMPANY
6182 Second Boulevard, Detroit, Michigan

At the left are illustrated five different types of Burroughs machines for payroll and labor accounting. These machines are offered in many styles and sizes to meet the requirements of any business, large or small.



CONSTRUCTION VIEW—BUILDING NO. 31
ELI LILLY & CO., INDIANAPOLIS, IND.
ROBERT FROST DAGGETT—Architect
LESLIE COLVIN—Contractor

INTERIOR COLUMNS—STEEL
WALL COLUMNS—REINFORCED
CONCRETE
EMBEDDED STEEL COLUMN HEADS
SUPPORT THE FLOOR SLABS
IN THIS NEW TYPE FLAT SLAB
FLOOR CONSTRUCTION

"SMOOTH CEILINGS" SYSTEM, PTD.
802 Met. Life Bldg., Minneapolis, Minn.



U. S. Army Base, Brooklyn, N. Y.
30,700 sq. ft. CWG Skylights.

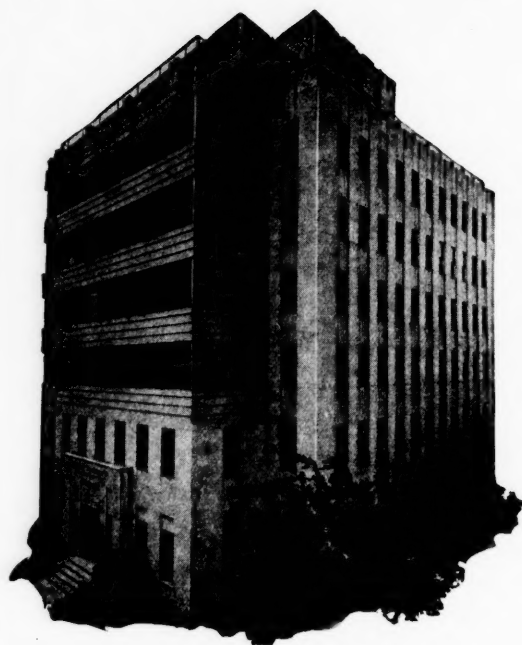
SPECIFY ORIGINAL SOLID CORRUGATED WIRE GLASS

It diffuses light with a minimum of shadows. It is practically self-cleaning and can be used on a roof of any material and supply daylight in manufacturing and industrial plants—an important factor in all modern production.

Also used with excellent results on sidewalls, marquees, canopies and wherever daylight is needed.

Our Engineering Service Department can aid you on your skylighting problems. Write or wire.

PENNSYLVANIA WIRE GLASS CO.
1612 MARKET STREET
PHILADELPHIA, PENNSYLVANIA



**"Stone Perfect...
Finish As Good As When
Installed 5 Years Ago..."**

That is a quotation from a letter written by Weiss, Dreyfous & Seiferth, architects of New Orleans, referring to the Lapeyre-Miltenberger Convalescent Home, shown above, which they designed, and on which polished spandrels of Virginia Black Serpentine were used to accentuate the horizontal lines.

As a result of the architects' complete satisfaction with Virginia Black Serpentine, we have just received a contract for this stone to be used in the same manner on the seven million dollar Charity Hospital, New Orleans, also designed by this firm of architects.

We will be glad to send you a set of samples, conveniently boxed, showing the range of stone from the Alberene Quarries in Virginia and to answer inquiries promptly. Virginia Black Serpentine is excellent for interior trim, fireplace facing and hearths, etc., as well as for spandrels, bulkheads, etc. Alberene Stone Corporation of Virginia, 419 Fourth Avenue, New York, N. Y. Quarries and Mills at Schuyler, Va.

**Virginia Black
SERPENTINE**
A NATURAL QUARRIED STONE
OF DIVERSIFIED ARCHITECTURAL UTILITY

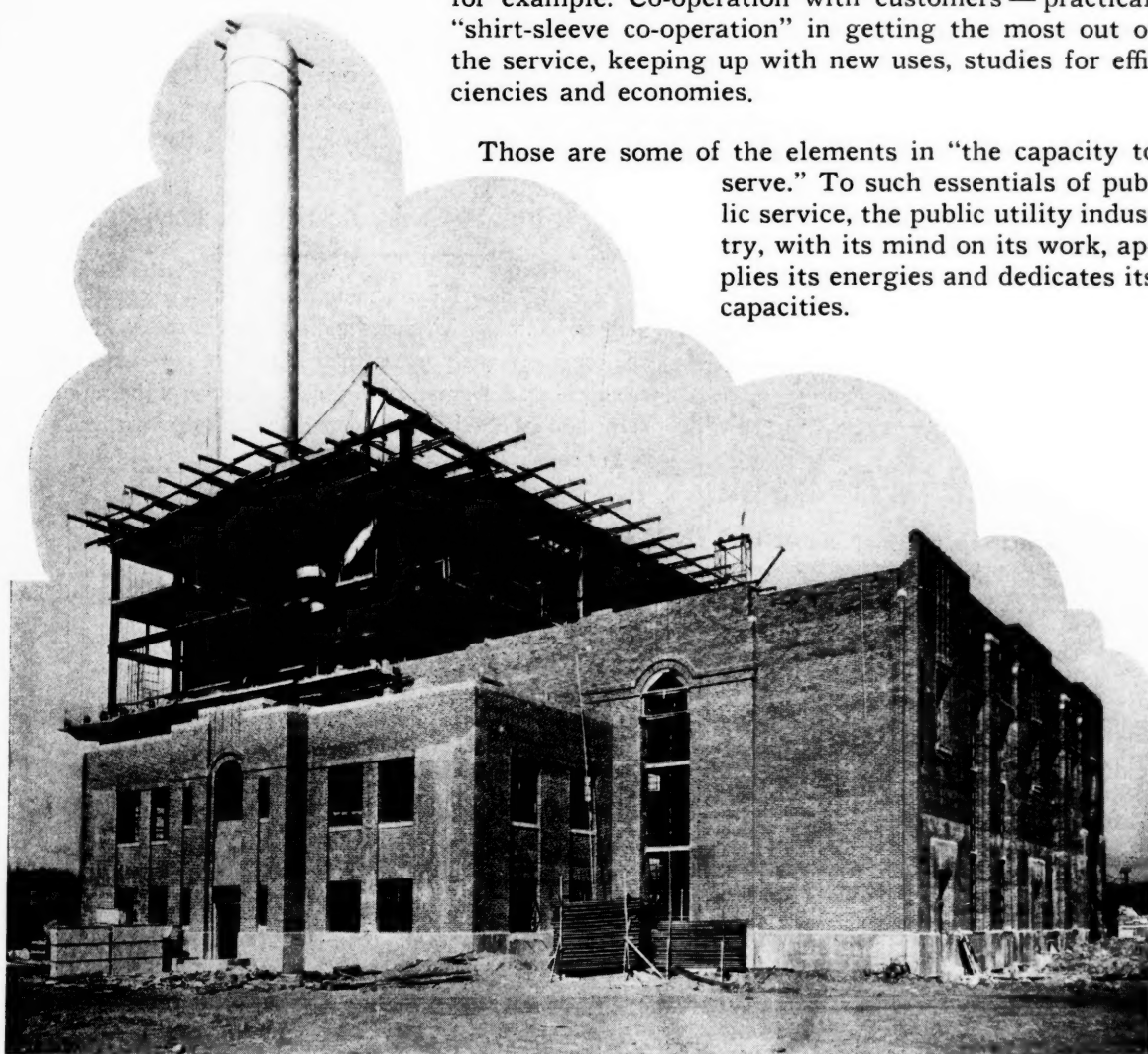
MANUFACTURERS RECORD FOR

"CAPACITY TO SERVE"

THERE'S more to "electrical capacity" than turbines, boilers, transformers, wire sizes, and the other shop talk of the engineer. Industry knows it. Industry wisely weighs it in determining questions of light, heat and power supply.

Responsible and experienced management. That's an item. Private management as exemplified by the utility industry. Intelligent application of new forces to improved utilization. That's another. The economic and physical relationship of steampower and waterpower, for example. Co-operation with customers — practical, "shirt-sleeve co-operation" in getting the most out of the service, keeping up with new uses, studies for efficiencies and economies.

Those are some of the elements in "the capacity to serve." To such essentials of public service, the public utility industry, with its mind on its work, applies its energies and dedicates its capacities.



THE COMMONWEALTH & SOUTHERN CORPORATION

ALABAMA • FLORIDA • GEORGIA • ILLINOIS • INDIANA • MICHIGAN • MISSISSIPPI • OHIO • PENNSYLVANIA • SO. CAROLINA • TENNESSEE

DECEMBER NINETEEN THIRTY-EIGHT

13

Have you scheduled your ADVERTISEMENT for the JANUARY ISSUE of Manufacturers Record

They're talking
about the South!

The compass of progress points to the South

"Whether as a sales territory, a business location, or an investment field, Dixie has what it takes.

The compass of progress and opportunity points to the South."

From a recent report of Babson.

In the midst of a great industrial boom

"The South appears today to be in the midst of one of the great industrial booms of our history. New plants—textiles, chemicals, paper, steel, tobacco and a dozen others—are being established in the area below the Mason and Dixon Line at a pace which outstrips that in any other section of the country. . . . the very fact that its industrialization is beginning late and can make use of recent techniques, are all in its favor."

*Elmer F. Andrews, Administrator,
Wage and Hour Division, U. S. Dept. of Labor.
(Article November 1938 MANUFACTURERS
RECORD)*

Economic opportunity Number 1

"The Southeast today is Economic Opportunity Number 1; it will reap the full benefits of the ever-increasing trend toward industrial decentralization and gain a proper balance between agriculture and industry."

*The Southeastern Governors' Conference.
(Advertisement November 1938 issue MANU-
FACTURERS RECORD)*

Louisiana's Governor induced 190 industries into the State

"While the rest of the country was suffering an industrial headache, Governor Leche induced 190 new industries to spend \$60,000,000 in new plant construction under his industrial expansion program."

*Louisiana State Department of Commerce and
Industry.
(Advertisement November issue of MANU-
FACTURERS RECORD)*

Go South, young man

"If Horace Greeley were alive today he might well say: 'Go South, young man.'"

Editorial New York Times.

THERE IS an advantage in getting your advertising copy, cuts and all material in our hands as early as possible. That will enable us to give prompt consideration to the location of your advertisement opposite or near the article bearing on your industry; this to be determined in the order received.

FORMS CLOSE JANUARY 4, 1939

OUR EDITORIAL department plans a comprehensive review of the major industries and activities of the South for the coming January issue. In the hands of our readers at the opening of the year, and with the attention of the nation turned on the South and the remarkable record it is making, it will be eagerly sought for and read.

Here is a valuable advertising opportunity!

SUBJECTS TO BE COVERED

CHEMICAL INDUSTRY.....	Dr. E. E. Reid
CONSTRUCTION.....	S. A. Lauver
COTTONSEED PRODUCTS.....	S. M. Harmon
COTTON TEXTILES.....	Dr. C. T. Murchison
ELECTRIC POWER.....	C. W. Kellogg
FERTILIZER.....	C. J. Brand
FINANCE.....	Robert Strickland
IRON & STEEL.....	W. S. Tower
PETROLEUM.....	Victor Scales
PULP & PAPER.....	D. G. Moon
RAILROADS.....	Dr. J. H. Parmelee
SHIPBUILDING.....	H. Gerrish Smith
TIMBER.....	

and others on the way and in preparation

THE STATE OF MISSOURI ARTICLE AND MAP—BECAUSE OF this Industrial Review, the resource map of the State of Missouri will appear in the February issue instead of January as tentatively scheduled and previously announced.

MANUFACTURERS RECORD

BALTIMORE, MARYLAND

The Arundel Corporation

BALTIMORE, MD.

Constructors and Engineers
Distributors of Sand - Gravel - Stone and
Commercial Slag

A COMPLETE ORGANIZATION

Our complete organization with years of experience in successfully executing large construction contracts of various kinds is prepared to undertake the construction of earth, masonry and concrete dams, drydocks, dredging of all kinds, river and harbor improvements, deepening channels, hydraulic filling and rock work, tunnels, railroad construction, sewers and waterways.

PERSONNEL :

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W. BLADEN LOWNDES, Vice-President
RICHARD A. FROELINGER, Secy. & Treas.

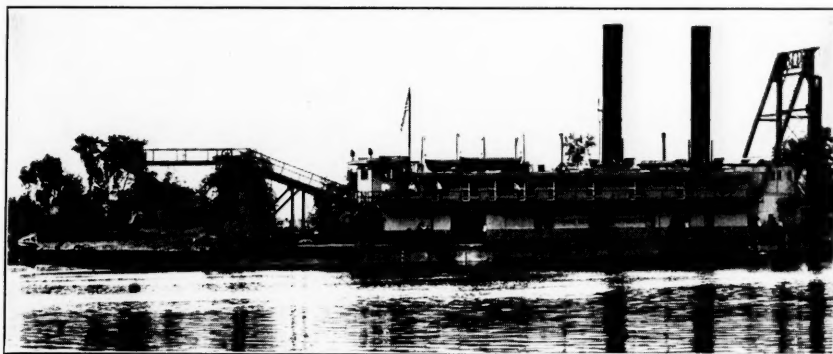
E. L. WADE, Assistant Secretary
J. N. SEIFERT, Asst. Secy. & Asst. Treas.
C. W. BLACK, Chief Engineer
HOWARD O. FIROR, General Supt.

MAIN OFFICE: Arundel Building, Pier 2, Pratt Street
BALTIMORE, MD.

Branches: BROOKLYN, N. Y.—MIAMI, FLA.

DREDGING

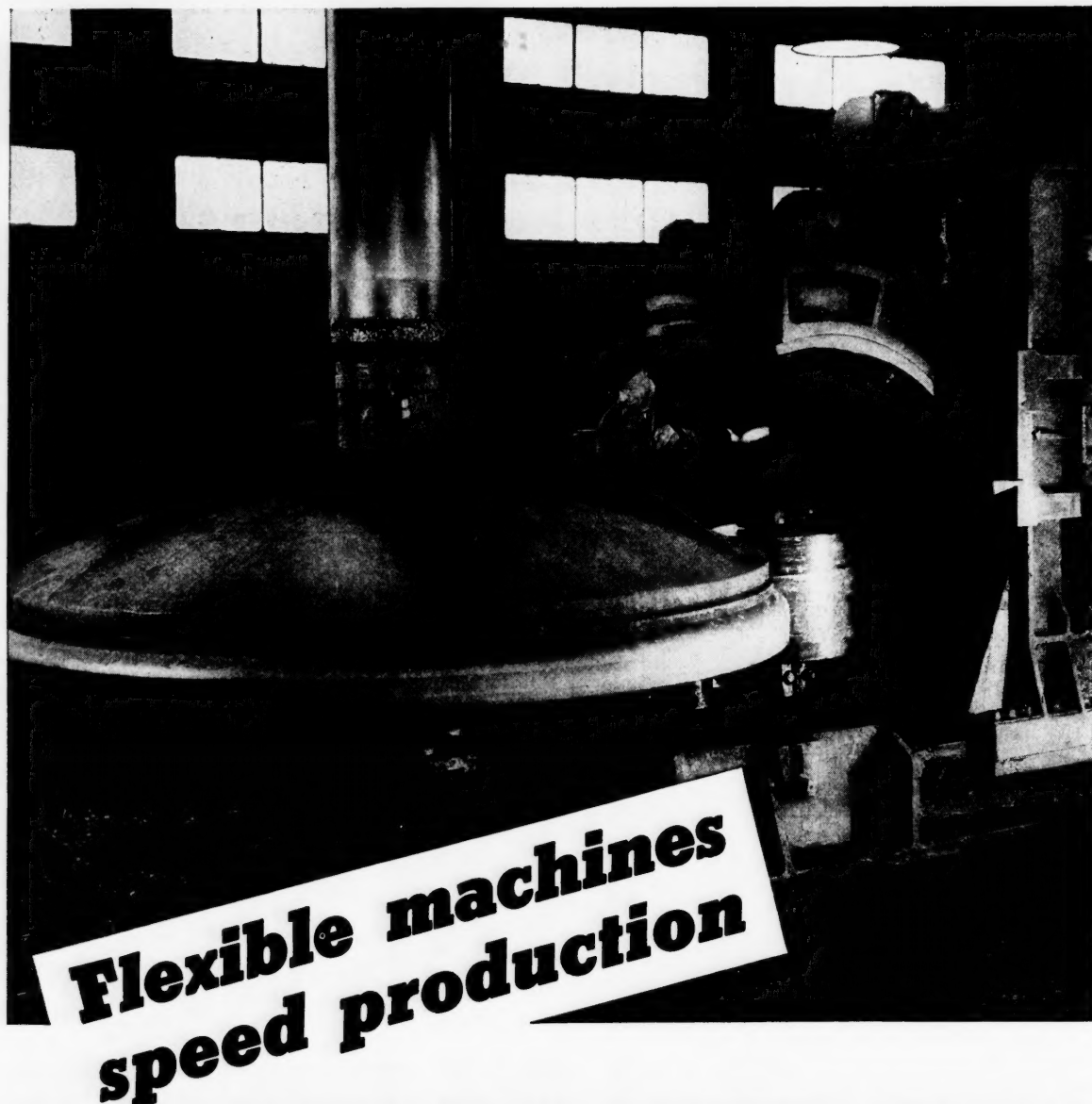
FILLING, LAND RECLAMATION, CANALS, PORT WORKS
RIVER AND HARBOR IMPROVEMENTS—DEEP WATERWAYS AND SHIP CHANNELS



We are especially equipped to execute all kinds of dredging,
reclamation and port works in Southern waters.
Correspondence invited from corporate and private interests everywhere.

Contractors to the Federal Government

ATLANTIC GULF AND PACIFIC CO.
NEW YORK: 15 Park Row **HOUSTON, TEXAS: Scanlan Building**



Flexible machines speed production OF FLANGED AND DISHED HEADS

FLEXIBILITY is the keynote of machines in Bethlehem's flanging shop. Thanks to readily adjustable working parts, wide variations in outside diameters, knuckle radii and straight flange dimensions are possible without need for special dies or heavy machine set-up charges. As a result, work that calls for many different forms and combinations of flanging and dishing is handled with

maximum speed and efficiency in this flanging shop.

And there's a further factor for speed in Bethlehem's production of practically any style or size of machine-flanged steel tank or boiler head. The flanging shop is located next door to the plate mills and open-hearths of a large steel plant, providing prompt supply of material for heads in any desired grade of steel.

Some other Bethlehem Products of particular interest to Southern Industry:

Wire Rope—made with a "know-how" that means maximum service.

Steel Sheets—Black and galvanized, flat and formed.

Steel Pipe—with many plus factors.

Tool Steels—A complete range, covering every requirement.

Open-Web Steel Joists—for fire-resistive, shrinkage-free floors.

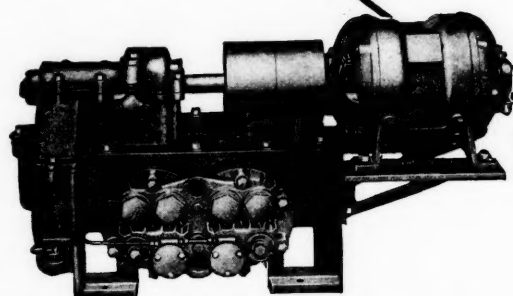
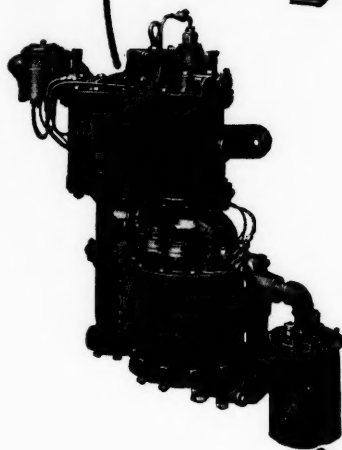
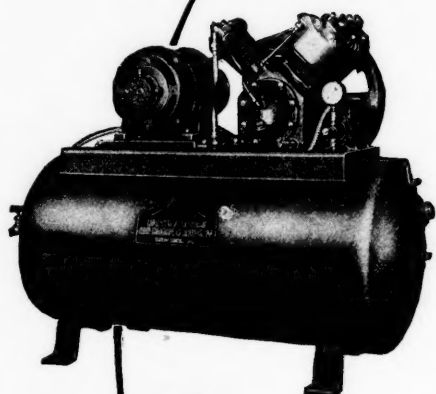
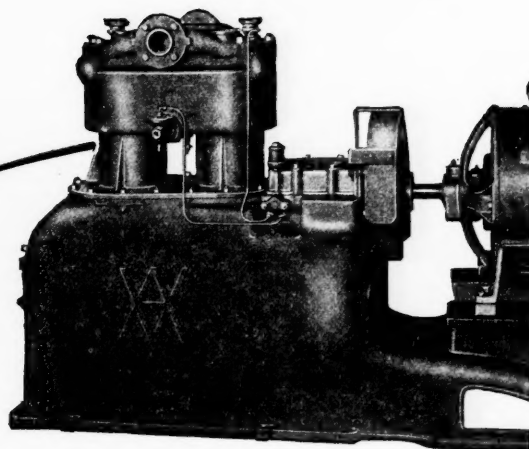
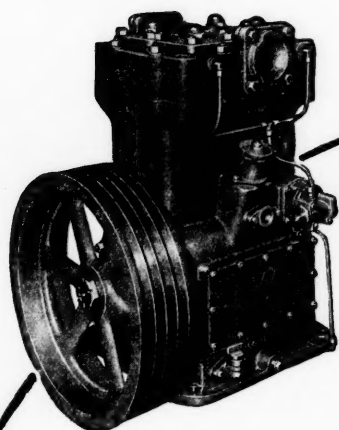
Reinforcing Steel and Road Steel

Structural Shapes—Wide Flanged Sections for heavy construction; Light Sections for economical use of steel where loads are light.

Fabricated Steel Structures of all types

BETHLEHEM STEEL COMPANY





Westinghouse AIR COMPRESSORS *for every purpose*

For use in office buildings, garages, service stations, printing plants, laundries, steel mills, shops — or wherever compressed air is needed—our compressors have won a reputation for high efficiency, reliability, economy, and long life . . . Available in many types and sizes ranging from 4 to 200 cu. ft. displacement motor-, steam- or belt driven. We also make a complete line of accessories—reservoirs, operating valves and cylinders, cut-out cocks, hose and fittings, blowing nozzles, "WABCO" packing cups and gaskets, "Pneuphonic" Horns for signal systems.

WESTINGHOUSE AIR BRAKE CO.

INDUSTRIAL DIVISION
PITTSBURGH, PA.



*How long is
an interview*

On the average, about fifteen minutes, you'd say? No, that's not very long—but multiply it by the number of the products you purchase—and you have an astounding figure representing time spent in interviews.

Republic can help you to save much of that time. Because of the wide line of products manufactured by Republic, its divisions and subsidiaries, a Republic representative can give you facts and information on a multitude of steels and steel products which you now may be buying from a dozen or more sources. Instead of a dozen interviews, you may require only one.

And it is quite possible that you and your company will benefit in other ways. From the standpoints of quality, uniformity and dependability, Republic products are welcomed everywhere by fabricators and consumers. From the standpoint of detail involved, Republic can reduce the number of orders to write, shipments to trace, invoices to check and checks to write. Republic Steel Corporation, Cleveland, Ohio.



GULFSTEEL

DIVISION OF REPUBLIC STEEL CORPORATION ★ GADSDEN, ALABAMA

STEEL AND TUBES, INC.

TRUSCON STEEL COMPANY

UNION DRAWN STEEL DIVISION

BERGER MANUFACTURING DIVISION

NILES STEEL PRODUCTS DIVISION





NOVEMBER RESULTS

As a result of the November elections there is a better outlook for business than at any time in the last six years.

It made plain that people want private business encouraged and the investment of private capital made reasonably safe. Business, if given a reasonable chance, will employ the idle. A permanent government relief roll which politicians say is inevitable, then can be forgotten.

The President has said there is to be no change in New Deal objectives, but the majority of voters, realizing we have been getting nowhere except into greater debt, have been explicit in their warning to Congress. Not to heed it is foreign to the way of practical politicians who may be expected to have a lot to say at the next session.

States' rights, the foundation of American constitutional government, have been reasserted and after all that is the concrete, vital result November has shown. The country has registered its determination to adhere to the principle of individual freedom established by the Constitution and sustained by the Courts. None of the foreign regimentation, nor centralized control, finds favor with the majority of Americans who protest against misguided attempts to chart a course here similar to that of radicals in other lands.

Federal political interference in elections, no matter how great the prestige and glamour of high office, is not to be tolerated and that fact breathes new life into our democracy.

It may be taken for granted that whatever the plans of the dream boys, reform measures will be scrutinized more carefully than some that have been made into law. They have not only restricted the normal functioning of business, but added to cost and embarrassment by the huge amount of detail work necessary to keep up with them. Their failure and great price have been amply demonstrated.

The November elections evidenced a rededication of American purpose to the principles that have stood through 150 years to make secure "the blessings of liberty to ourselves and our posterity."

Profit Sharing

A SENATE Committee has been hearing testimony regarding profit-sharing by employees in industry. Employees as partners in business enterprise is not a new idea. Many companies have followed such a course for years. Various plans more or less successful have been devised, from the selling of stock, frequently below market prices, with the employer helping out in its purchase, to direct participation shown in a larger pay envelope at intervals as profits permitted.

To aid in a fuller understanding of the ups and downs of business, management has in some instances opened its books to its employee partners, sometimes numbering many thousands, and at public meetings between officials and workmen there has been open discussion of costs and selling prices and balances, with the invitation extended to employees to ask questions about any point that seemed obscure.

Profit sharing also has taken other forms, such as the adoption of pension plans providing assurance of old age comfort and bonus payments to loyal and efficient employees. An advantage claimed for a bonus system is that it makes an employee a true partner in the sense that he shares with the employer in periods of prosperity and adversity.

While strikes have not been prevented altogether, profit sharing has undoubtedly lessened the number, and except for outside influences which have been injected by radicals and have caused misunderstandings, workmen and employer alike have in the main seen it to their advantage to maintain a cordial relationship based upon the idea that business can and should be conducted on a plane of mutual objective.

The Social Security law has come into the picture and there has been difficulty in adjusting what the government has been doing and harmonizing that with private plans which have been in effect for long periods. Some business houses, by reason of added expense, have been forced to abandon previously adopted systems.

As the facts are brought out, employers instead of being the feudal barons they have been painted, have over the years in increasing number been active in their efforts to have "their people," as they know their workmen, share in a larger degree in returns from their work, both in added responsibility and monetary reward. Nothing could show more clearly such a purpose than the extent to which plants were

kept open during the early years of the depression while surplus was dwindling and loss was being experienced every day instead of profit.

The Tax Question

THE question of taxation will come prominently before the next Congress. Administration officials are reviewing the tax structure in what is said to be an earnest effort along the line of constructive changes.

It may be taken for granted, in view of the spending that is taking place, that the budget will show a greater degree of unbalance unless revenues materially increase. Those who believe in spending to bring back prosperity are adhering to that idea, and those who want to curtail expense maintain their position is the way to restore business confidence.

In the meantime, defense plans of the administration are giving rise to the suggestion that a special tax, solely for defense purposes in providing ships and armament and airplanes, must be levied.

Government revenues will quickly increase if profits of business become anywhere near normal. Unless there is a great wave of prosperity, however, taxes are likely to be on the rise for some time to come.

A general sales tax does not seem to meet with favor at Washington, although it is probably the fairest of all taxes. Even omitting food and clothing, it would be, by the very knowledge of an open and above board tax known in advance to be applied to one's purchases, the surest way of raising adequate revenue and doing away with hidden taxes and restrictive measures, such as the undistributed profits tax. A number of the states have proven the efficacy of a sales tax. It is true that some have abandoned it for political reasons, while in its place taxes not generally recognized have been established in the form of hidden taxes. It is estimated that a man with \$1,000 a year income pays in indirect taxes \$125 applying to food, rent, clothing, fuel, light, recreation and a lot of other things.

Taxes at the point of final purchase by the consumer would seem to be the answer. This avoids pyramiding on manufactured articles at various stages of turnover, which has been urged as one of the objections to a sales tax. To make the distinction, the tax paid by the final buyer is sometimes referred to as a consumers' tax. It should save a vast amount of laborious work in making up intricate tax returns and keeping records of infinite detail.

The Testimony of New England Governors

IN another column we are printing some extracts from testimony given by Governors of New England states at the hearing in Buffalo before the Interstate Commerce Commission on the South's petition for parity of freight rates. The statements leave no doubt of the regard being given in one quarter at least to the progress going on in the South.

The New York *Times* last month called attention to a brief filed by the Attorneys General of New York and Delaware "in behalf of their states and various commercial and civic organizations in the North." * * * "Statistical data attached to the New York brief showed the large trend of manufacturing enterprises to the South since 1923 to support the contention that the South did not need any more competitive rail rates to attract industry from the North."

The brief contended "that rate parity is not necessary to prevent the South from being restricted in its industrial development or from being able to compete in Northern markets. * * * and any reduction in the present rates, far from accomplishing economic equalization, would simply provide an artificial stimulus to a more rapid dislocation of industry, which already threatens the welfare of the Northern states."

It is evident that our Northern friends do not regard the South as "the No. 1 economic problem of the nation." In fact, they are so alarmed over the progress the South is making that they are not willing to have it, in the matter of freight rates, placed on a parity with other sections.

Industry has gone to the South and the South is developing rapidly in many lines because it has resources industry needs, because it has a supply of American labor, and climate and soil that make it possible to produce goods here cheaper and better than elsewhere.

Advocates before the Interstate Commerce Commission for the maintenance of freight rates that are inequitable and unfair, are presenting a weak case in answer to the strong case the South presents. A better course would be to join in the request that fair freight rates for the South be established so that as this territory develops its manufacturing New England will find here a greater demand for the tools and equipment it makes. In such lines New England is skilled and in them its work-

men have been trained for generations. It would seem reasonable to believe profit will lie in the direction of helping to develop such a market.

Improvement

CONCRETE evidence is not lacking of increasing business operations. Electric output shows an increase over a year ago. Steel operations have shown by their improvement a steadily growing demand. Automobile manufacturers are setting a larger operating schedule, and railroad carloadings are increasing. Chemical firms are reported as making plans for extensive plant expansions to start with the new year, and in the line of heavy goods generally the feeling is more optimistic than it has been.

Other lines reporting larger outputs are boots and shoes, plate glass, minerals and general construction.

Financial columnists in their predictions say the movement toward betterment will be more prolonged and sustained than was contemplated a few months ago.

The defense program of the government, which probably will be planned to cover a two or three year period or more, while calling primarily for activity in shipbuilding, armaments and airplanes, will reach out into many avenues and create a demand upon all parts of the country for a wide variety of commodities.

The Machine's Effect on Employment

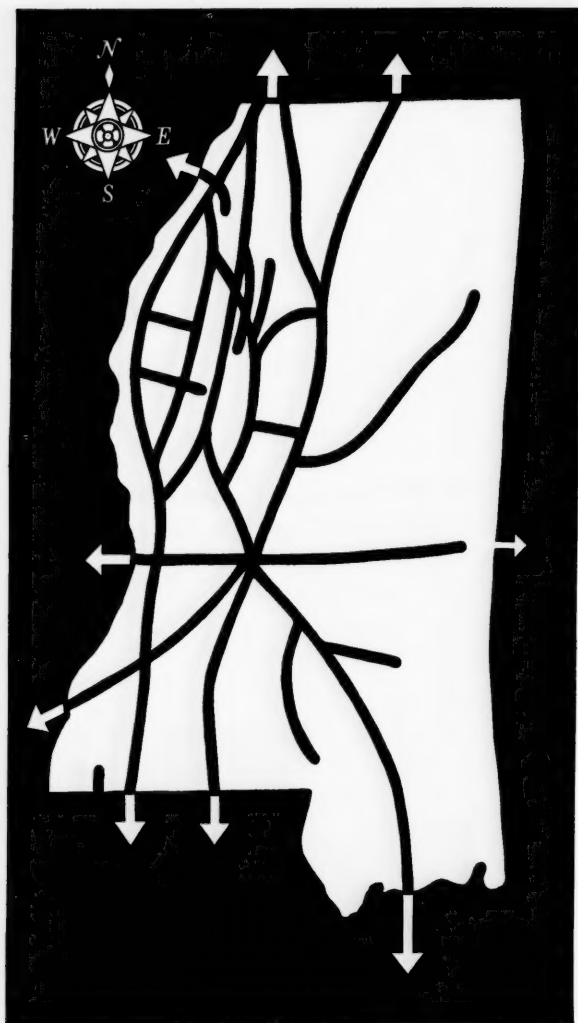
THE American Society of Tool Engineers has taken up a fact finding program to determine the effect the so-called machine age has had and is having on employment and the standard of living. The Society announces that its membership, running into thousands, with the aid of universities, publications, economists, and national research boards, will establish a gigantic research bureau to get at the facts.

President Walter F. Wagner says there is probably no question as vital today as "the problem of what effect the machine is having on employment or unemployment—on raising or lowering the standard of living and income of the nation as a whole."



MISSISSIPPI'S RICH RESOURCES

plus ILLINOIS CENTRAL TRANSPORTATION



During the five worst depression years, newly incorporated capital in Mississippi averaged \$400,000,000 a year—up 27 times over the same period ten years ago. Heavy construction, industrial pay rolls and new car sales have been increasing at a rate many times greater than the national average.

Offer Outstanding Advantages for Industrial Locations

In Mississippi's mild semi-tropical climate production costs are low; coal, electric power and natural gas are abundant and cheap; labor is friendly and contented; and Mississippi has the lowest death rate in the South. The state and the local governments are cooperative, granting tax concessions and financial assistance.

Besides, Mississippi has many untouched mineral deposits adapted to industrial use such as bauxite, lime stone, sand stone, silica, ochre, pottery clay and others; approximately fifteen million acres of forest which replenishes itself every 12 to 20 years; a vast fertile area on which all the products of a semi-tropical and temperate zone can be grown practically the year 'round.

Furthermore, Mississippi stands at the apex of the Mexican Gulf—gateway to the rich markets of Central and South America and the Caribbean—through which all the markets of the world are easily accessible.

Finally, the Illinois Central System, Mississippi's greatest transportation service, provides fast, economical traffic routes to the important markets of the nation, and to the principal shipping ports for export to all parts of the world.

*For industrial locations and
additional information write—
C. C. Cameron, Vice President
Illinois Central System
Chicago, Illinois*

Mississippi-Its Development and Future Opportunity Based on Wealth of Resources

MISSISSIPPI, popularly known as the Magnolia State, originally constituted a part of Louisiana and was first settled by the French in 1699. In that year Iberville established a colony at a site which he named Biloxi and is now across the bay from the present city of that name. The original Biloxi however was destroyed by fire in 1701 and the settlement abandoned. In 1763 Mississippi was ceded to Great Britain and admitted to statehood in the Union on December 10, 1817.

With a total area of 46,875 square miles, of which 503 square miles comprise water area, Mississippi ranks 31 in size. In population, the state ranked 23 with an estimated total of 2,017,000 in 1937. According to the 1930 census, the population density was 43.4. Mississippi is unique in that the whites are still outnumbered by the colored race who comprise 50.2 per cent of the total. However, it is anticipated that by 1940 the white population will be in the majority. The white foreign born comprise only 0.7 per cent of the total whites.

Climate

THE climate of Mississippi conforms closely to that of the surrounding states and is temperate and equable. The average annual temperature varies from 61° Fah. in the extreme northern part of the state to approximately 68° Fah. on the coast, the difference in summer months however is negligible. The frost free season averages over 200 days each year in the north and about 275 days in the southern section. The average annual precipitation is 52 inches.

Transportation

MISSISSIPPI is generously supplied with transportation facilities by rail, road, water and air. With approximately 4,000 miles of railroads, everyone of the state's counties are traversed with rails connecting all the principal cities as well as providing rapid and direct communication with virtually all points outside the state by the six major railroads and other smaller companies.

The entire mileage of highways within the state is now close to 65,000 miles, of which the state system comprises nearly 8,000 miles. Of the latter, over 2,500 miles are paved and more than 5,250 miles are graded and drained. Extensive passenger and freight bus lines complement the other modes of transport.

Extending for the entire length of the state's western boundary is the country's largest inland waterway, the river Mississippi. This river, carrying both federal and private barge traffic, with freight terminals at Natchez, Vicksburg and Greenville, offers great opportunities for freight transportation to northern markets as well as a convenient link with ocean shipment. In addition to the Mississippi, several other rivers already are navigable and the navigability of others is projected or in course of completion. Gulfport on the Gulf coast is the state's principal deep water port with adequate modern facilities for handling the wide variety of commodities entering and leaving the terminal. The ten mile ship channel to the open Gulf has a depth of 26 feet thus permitting usage by the majority of ocean going vessels. Nearby Biloxi and Pascagoula also offer shipping facilities particularly for coastwise traffic.

Air lines, operating the length and breadth of the state and connecting the principal Gulf ports, provide additional passenger and freight transportation, while 32 airports and fields are strategically located throughout the state.

Manufactures and Finance

THE value of manufactured products in Mississippi amounted to \$121,931,115 in 1935, a gain of \$49,383,704, or approximately 64 per cent over the 1933 figure of \$72,547,411. Of this amount, lumber and timber products ranked first with \$27,852,023 and cottonseed products came second with \$24,577,961. Other important manufactures are cotton textiles and clothing, and a variety of industries following the farm chemurgic program.

In the 1,062 establishments located in the state there were 36,852 wage earners employed in 1935 with a total payroll of \$19,941,010. The cost of materials, containers, fuel, and purchased electric energy was \$70,939,206.

The \$179,902,000 volume of Mississippi's wholesale sales in 1935 was an increase of 26.2 per cent over the 1933 sum of \$142,548,000. Retail sales totaled \$178,348,000.

The total internal revenue collections for 1937 amounted to \$6,186,033 of which \$3,556,891 represented income tax.

The aggregate resources of the state's 207 banks which reported to the Comptroller of the Currency in 1937 totaled \$207,909,000, a gain of \$19,654,000 over the \$188,255,000 reported for 1936. The capital stock of these banks, including capital notes and debentures, comprised \$181,833,000. Savings deposits increased from \$55,530,000 in 1936 to \$60,166,000 in 1937. Bank clearings as represented by reporting exchanges were \$173,747,000, an increase of \$36,097,000 over the comparable transactions for 1936.

Agriculture

MISSISSIPPI is essentially an agricultural state, both from the point of view of employment as well as source of income. Furthermore, the diversity and variety of agricultural products are becoming increasingly important because of their adaptation to industrial use. In 1937, the cash farm income was \$177,810,000, \$137,702,000 from crops and \$29,641,000 from livestock and livestock products.

Cotton comprises the principal crop and is grown on a major scale in almost every county except those bordering the Gulf coast. From the 3,467,000 acres of cotton harvested in 1937, was obtained 2,692,000 bales of lint yielding a cash income of \$96,300,000, while 1,198,000 tons of cottonseed yielded an additional \$21,000,000. Other important crops from an industrial point of view which are being developed are corn, sweet potatoes, sugar cane, peanuts and soy beans. One of the most interesting and promising developments is tung trees. Many thousands of acres have now been planted in the southern part of the state and a nut crushing mill has been erected in the heart of the region.

The dairying industry is growing rapidly as evidenced by the fact that the first milk condensery and the first cheese factory in the South are stated to have been located in Mississippi within recent years.

Although Mississippi has only a small coast line, it borders the Gulf, from which is derived the majority of the nation's shrimp as well as a considerable quantity of oysters and other fish. In the three Mississippi counties on this coast is centered the major part of the entire Gulf's seafood industry.

Timber

OF all the state's resources, it is probable that Mississippi forests are the most valuable.

The total forest land is estimated to cover an area of 18,283,000

MANUFACTURERS RECORD FOR

acres of which saw timber occupies 5,067,000 acres and has a saw timber stand of 20,481,000 board feet comprising 12,960,000 board feet of softwood and 7,521,000,000 board feet of hardwood. Twelve per cent of the total stand is estimated to be old growth, 41 per cent is classified as second growth sawlog size, 36 per cent second growth under sawlog size, 6 per cent reproduction, and 5 per cent clear cut. According to recent estimates the growth of hardwoods exceeds consumption by 9 per cent but consumption of pines exceeds growth by 0.6 per cent. This latter circumstance, however, will gradually be reversed as the reforestation program continues to grow as at present. With such a predominance of softwood timber, Mississippi is ideally situated for the development of the pulp and paper industry.

An indication as to the character of Mississippi timber may be obtained from the U. S. Southern Forest Survey's estimates of the cordwood volume, by pulping and non-pulping species groups, in the region classified as Survey Unit 2, which comprises approximately 26 counties in the northeastern corner of the state. In this particular region, the forest types are fairly evenly distributed as compared with an admixture of hard and soft woods in the central portion of the state, hardwoods in the west, and pine in the south. In this area there are 10,030,000 cords of pulping pine (shortleaf and loblolly), 5,323,000 cords of pulping hardwoods, (gum, cottonwood, willow, cypress, tupelo, and maple), and 14,137,000 cords of non-pulping hardwoods (oak hickory, ash, elm, etc.)

The total lumber sawed in 1936, amounting to 1,260,730,000 board feet, included 899,265,000 board feet of softwoods and 361,465,000 board feet of hardwoods.

In 1935 there were 366 establishments engaged in the lumber industry the value of whose products was \$27,852,000. The cost of materials and power used in production amounted to \$11,565,000 and \$7,968,000 was expended for wages.

Though not a major industry, naval stores are produced in several counties as indicated on the accompanying map and give employment to a considerable number of people besides supplying the basis of other industries.

Mining and Minerals

ON the accompanying map is indicated those minerals which are at present being commercially produced in Mississippi. This, however, does not present an adequate picture of the state's mineralogical possibilities because, except for certain clays and aggregates, Mississippi's mineral resources have not yet been worked. The fact that most of the deposits are non-metallic may possibly account for the delay in production.

In addition to the clays now produced there are other enormous deposits of different varieties and excellent quality in several parts of the state. Surveys have already been completed in a number of counties and others are scheduled for prosecution in the near future. It is claimed that almost every county has clays suitable for brick and tile making while white clays are available in abundance in several counties suitable for stoneware, face brick, electrical fixtures, and also as fillers for paper and paint.

Other minerals with known deposits of a size and quality fully adequate for commercial production are limestone, marls, bauxite, tripoli, lignite, gunkite, and salt. Still other minerals believed to exist in commercial quantities and warranting further exploration are ochre, Fuller's earth, novaculite, building stone, silica, umber, asphalt, gypsum, chert, and copperas.

It is reported by geologists that in view of the abundance of Mississippi's mineral resources, the output should be twenty times as much as the present annual average.

One of the most valuable discoveries made in the state during recent years is the availability of natural gas. This has been developed at two fields since 1930 so that at present the average daily capacity is in excess of three billion cubic feet. Pipe lines from these and Louisiana fields supply gas to a large number of Mississippi's counties.

Electric Power

ALTHOUGH Mississippi has no hydroelectric power generating facilities of its own, interstate connections with Alabama, Arkansas, and Tennessee provide a means of augmenting the states' own facilities and assure an ample supply at minimum rates.

The 66 Mississippi plants operated by 25 companies have a total installed generating capacity of 64,234 kilowatts. This is made up by 21 steam power plants having a capacity of 48,563 kilowatts, 42 internal combustion engine plants with a capacity of 14,315 kilowatts and three combination plants capable of generating 1,356 kilowatts.

Production of electric power by public and private plants in 1937 totaled 76,520,000 kilowatt hours, all produced by fuel operated plants. This quantity exceeded the previous year's 68,676,000 kilowatt hours by 7,344,000 kilowatt hours.

Taxation

IN 1936 Mississippi enacted legislation providing for county and municipal exemption from all ad valorem taxation, except that of a state character, for virtually all kinds of new factories and new enterprises, for a period of five years from the date of charter in the case of a corporation or commencement of operations in the case of an individual enterprise. In the same year under the "Balance Agriculture with Industry" act, new factories and enterprises are offered exemption on physical property from all ad valorem taxation except state ad valorem taxes. The state property tax, it has recently been announced, will be increased from four to six mills for 1938 and 1939 but it may be reduced by executive proclamation if the condition of finances so warrant.

Entrance fees for recording charters are \$20 for the first \$5,000 of capital stock and \$2 for each additional \$1,000 up to a maximum of \$500,000.

The state income tax, applicable to corporations and individuals having a gross income over \$5,000 per year or net income in excess of the statutory exemption of \$750, is graduated from 2½ per cent on the first \$2,000, 3½ per cent on the next \$3,000, 5 per cent on the next \$10,000 and 6 per cent on the remainder.

The corporation franchise tax is at the rate of \$1 per \$1,000 of value of capital stock, surplus, undivided profits, and reserves employed within the state. The minimum tax is \$10.

Mississippi also has sales taxes which vary on different commodities.

The assessed value of all taxable property within the state in 1937 was \$541,147,173.

Labor and Wages

MISSISSIPPI'S population is one of the most evenly distributed of any state in the Union. The average density per square mile of 43.4 persons varies among counties from a high in Hinds of 99 persons to a low in Perry of 12.7.

There are no large areas in the State uninhabited; and with few exceptions there are no areas densely urban.

The population is largely rural, with the percentage of urban dwellers increasing steadily but at a slower rate than that for the United States as a whole. In 1930 the urban population was 21.1%. Only 11.8% live in cities of 10,000 or more. Only 16.9% live in towns of 2,500 or more.

The extent to which urban labor may be available for industry is mirrored to some extent by the trend of population toward the larger cities and towns. Mississippi's largest city, Jackson, increased its population 130% between 1920 and 1933. Gulfport registered an increase of 50.1%, Hattiesburg 46.9%, Laurel 44.2%, Biloxi 41.7%, Meridian 36.7%, McComb 33.7%, Vicksburg 31.6%, and Greenville 28.8%.

Mississippi industry does and will employ a large percentage of rural people. In one typical case 75% of the workers are from the country and only 25% from the city in which the plant is located.

The general low cost of production is shown by the figures of the 1930 census. It was 1.5% less in Mississippi than in any of the bordering states, and 1.6% less than the United States average; notwithstanding that part of the cost of production being paid as wages was almost 3% better in Mississippi than the United States average.

MISSISSIPPI

Its principal raw materials and transportation facilities offering opportunities for industry, with additional facts on the reverse side pertaining to industry and its growth within the state.

Mineral

Bentonite—9, 17, 56

Clay, brick—2, 5, 9, 15, 16, 23, 33, 37, 38, 48, 52, 62, 74

Clay, pottery—2, 17, 23, 38, 52, 82

Clay, raw—2, 12, 19

Mineral pigment—3

Natural gas—23, 43, 49

Sand and gravel—(, 23, 27, 33, 62

Sandstone—(c)

Agricultural products

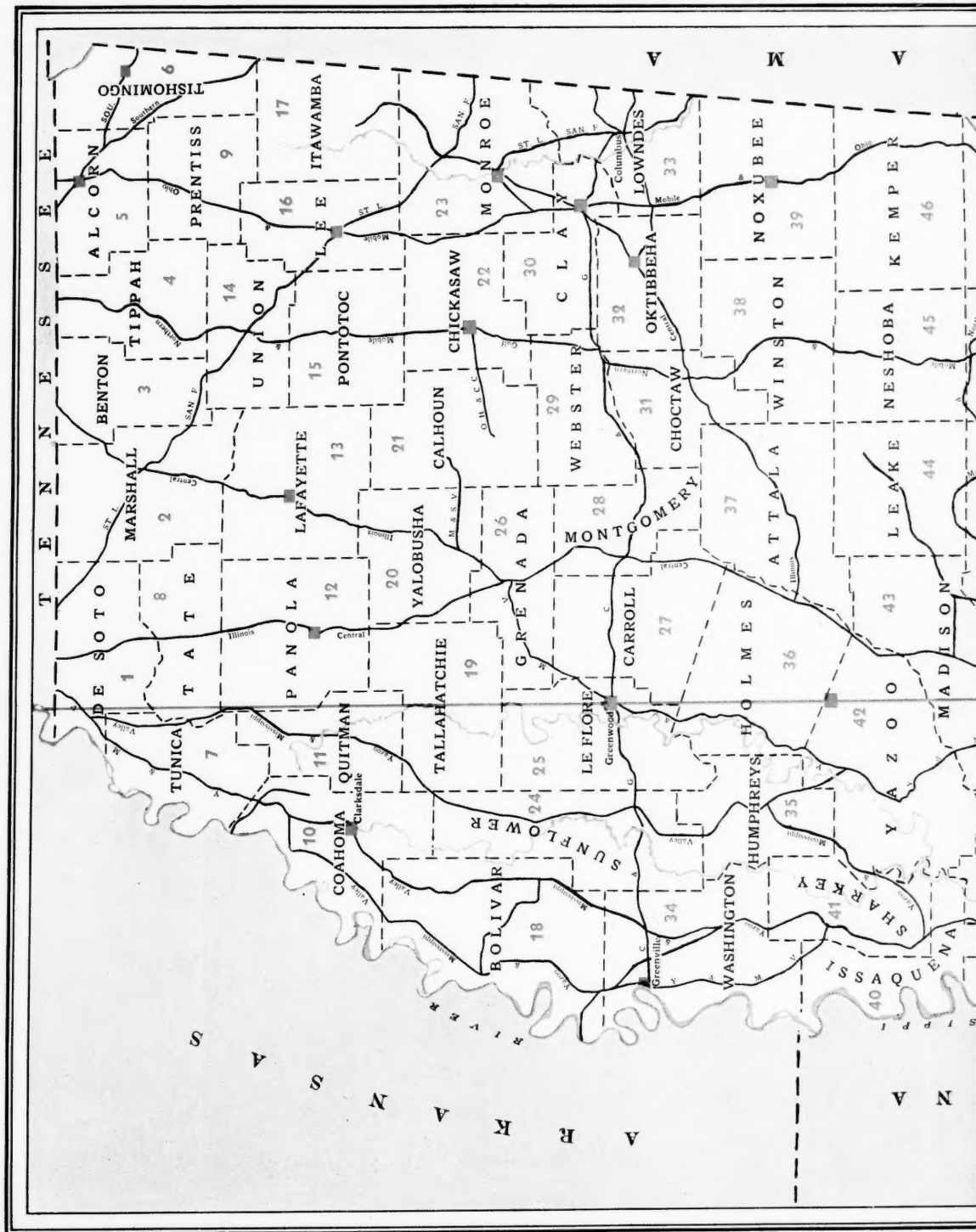
Corn—continued

Cotton—1.74, 79

Oranges—77, 330, 331

Peanuts—1-9, 11-31, 36-10, 12-16,
17-59, 61-67, 69-73

Soybeans—5, 9, 10, 16, 21, 21, 25, 27, 31, 32, 51



Sugar cane—37, 38, 42-46, 48-52,
54-59, 61-67, 69-79, 81, 82

Sweet potatoes—all counties

Tung oil—70, 74, 77-79, 81, 82

Fisheries—80, 81, 82

Timber

Longleaf slash—61-67, 70-82

Shortleaf hardwoods—4-6, 9, 17,
23

Shortleaf loblolly hardwoods—3, 4,
13-15, 17, 19-23, 26-53, 56-59,
63-66, 68-70

Loblolly hardwoods—63-70

Mixed upland hardwoods—1-5, 8,
9, 12-16, 19, 20, 22, 27, 30,
36, 42, 43, 47, 48, 53, 59,
60, 63

Mixed bottomland hardwoods—23,
63, 72, 79, 82

Oaks-mixed hardwoods—10, 12, 13,
19, 21, 35

Redgum-mixed hardwoods—1, 7,
10, 11, 13, 19, 24, 25, 27,
31-36, 40-42, 47, 59, 60, 63

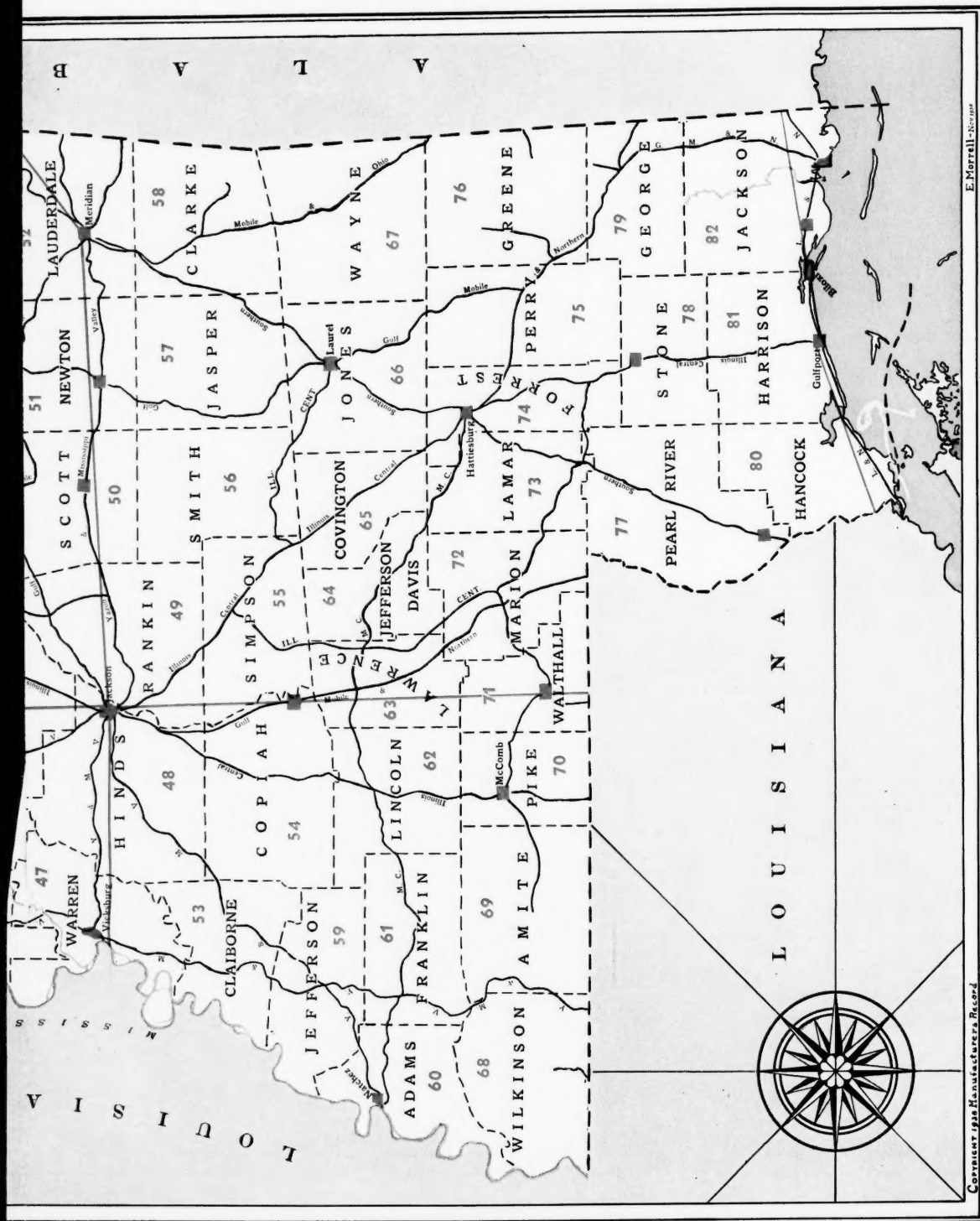
Natural gas is available for con-
sumption in the following
counties:—1, 7, 10, 16, 18,
23-25, 30, 32-34, 36-43, 46-49,
52, 54-56, 60, 62, 65, 66, 68,
70, 72-76, 78, 79, 81

—Railroads

—Navigable waters

—Airlines

■ Airports—also at principal cities
printed in red



Copyright 1938 Manufacturers Record

E. Merrill-Norris

Wage and Hour Law Will Curtail Production

Editor, MANUFACTURERS RECORD:

We did not answer your questionnaire regarding the new wage and hour law, for the reason that we did not have time to determine its effect. Since, however, we have information regarding the construction of this law, by the Administrator, we are now in a position to express our views regarding same.

Our scale of wages is as high or higher than the minimum set under this law, but due to the fact that our business is dependent, to a large extent, on weather conditions and seasonal demand, it would work a hardship either on our employees or the company, if we comply as to hour regulations. Some weeks we are compelled to work overtime, while other weeks we are on short time. To pay our employees time and one-half time for overtime, and double time for Sundays and holidays, would render our operation unprofitable. To cut our men off on 44 hours when conditions are favorable for longer work hours per week, would be unfair to our men, for the simple reason there would be other weeks they would be on short time, and they would not have an opportunity to recover the time lost during bad weather.

The brick industries have suffered a steady decline in the demand for our products for the past 25 years, due to increased cost of production and increased freight rates, forcing the price up on the consumer, resulting in cheaper local synthetic materials, and cheaper construction. Therefore, the business is not in a position to stand radical advances in prices to the consumer, and the profits derived from the manufacture of brick is entirely too thin to absorb an advanced cost made necessary by the compliance of this law, therefore, we can see nothing in the future, but the curtailment of production, resulting in lessening of employment in our line of industry.

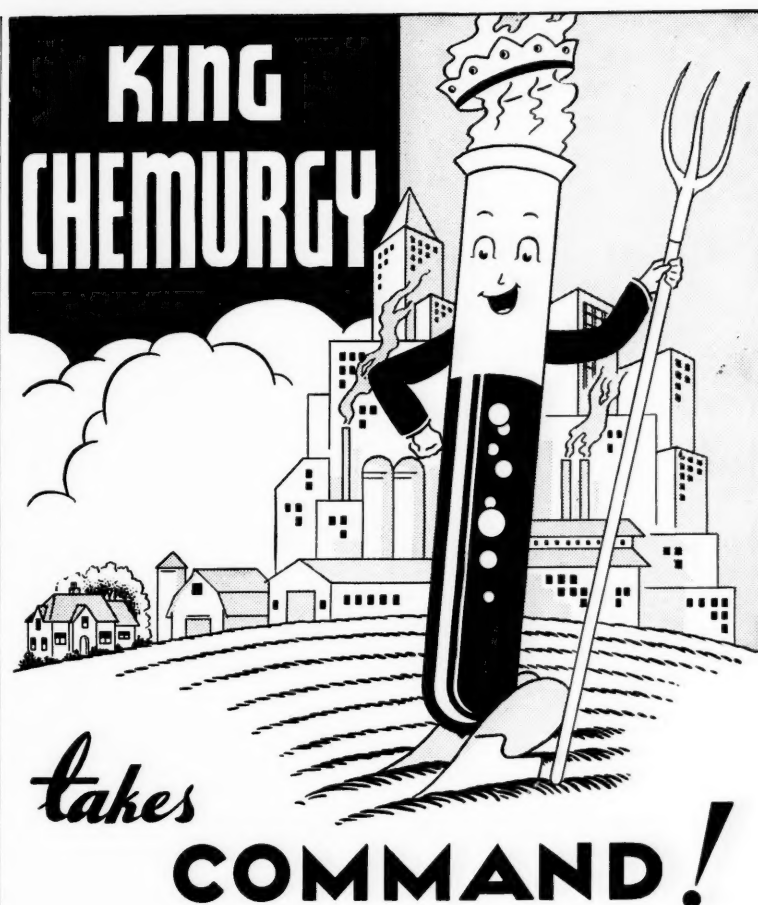
PLAINVILLE BRICK COMPANY,

L. N. LEGG, Manager.

U. S. Issues Suggestions for Making City Surveys

The United States Bureau of Foreign and Domestic Commerce will release early this month a study—"Suggestions for Use in Making a City Survey"—outlining basic information helpful to industry in deciding on location of plant or sales office. It is offered for the use of city officials, Chambers of Commerce, as well as manufacturers, distributors, etc.

Copies are obtainable from the Superintendent of Documents, Washington, D. C., at ten cents each.

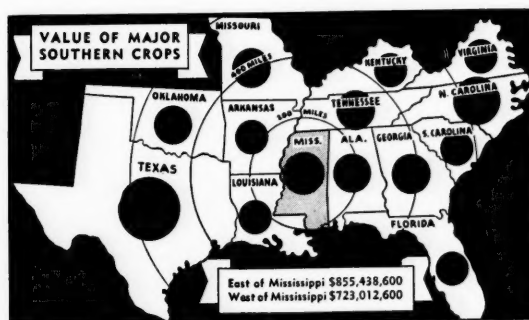


American industry is taking one billion tons of raw materials each year from natural reservoirs—from mines, wells and surface deposits—from reservoirs irreplaceable.

Today "King Chemurgy" takes command as chieftain of the chemical revolution. His factory triumphant is founded on field and forest. It draws its raw materials from reservoirs inexhaustible, from replaceable products of the soil.

To far-sighted industrialists King Chemurgy issues a summons to Mississippi, the state which lies in the center of the agricultural South—in the center of its resources and raw materials, the center of its fields and forests, the center of its population and markets.

You will be interested in "The Realm of King Chemurgy," the graphically illustrated story of a state where agriculture plus science spells industrial opportunity. Write for your copy now.



MISSISSIPPI INDUSTRIAL COMMISSION
A DEPARTMENT OF THE STATE OF MISSISSIPPI - JACKSON, MISS.

A Labor Organization's Views On Taxes

THE MANUFACTURERS RECORD has received from the Florida Federation of Labor an interesting and helpful study which a committee of that body has made on taxation, and its effect upon industry as well as labor. The letter accompanying the report from Walter Hoyt, Secretary and Treasurer of the labor body, says:

"Many of us in organized labor feel that labor is the natural partner of you in industry, rather than of the politicians. Many of us are confident that labor and industry together could put an end to this present trend toward taxes and legislation which, by cramping or paralyzing business, affect us adversely, too. We believe the Florida report offers a practical, constructive step in that direction."

Reading the report bears out what Mr. Hoyt says. It reflects an attitude on the part of intelligent American labor recognizing the indissoluble place it occupies together with industry in American progress. It is regretted that space limitations prevent quoting more than a few of the conclusions reached.

The Committee states this is a preliminary report because the study made has disclosed facts and trends "which we believe are bound to work against the best interests of Organized Labor and all working people. We feel active steps can and should be taken to inform other Federations of our findings, so they may be on the alert against dangerous and powerful trends in tax problems now being promulgated against the interests of the silent taxpayer."

"For four months we have studied the problem as best we could. We have gathered a wealth of material from many sources. We found we could not analyze the economic effects of punitive taxes

aimed at elements in the national distributing system from a state viewpoint alone because the movement of consumer goods from producer to ultimate user involves interstate commerce. This is subject to Federal control, which overrides state or local considerations. Local penalties inflicted in one city or state may be felt in many others.

"The entire problem needs re-studying on a national scale. We are glad to report that such a study is already under way.

"It is a critical time in the nation's history. Upon the fairness of taxing plans worked out will rest the success of today's recovery spending program. If that fails, but three probable courses remain, we believe. They are: debt repudiation, inflation, or political and financial collapse.

"Our findings convince us that the day for an almost complete revision of Federal, state and local tax systems of the United States is inevitably at hand.

"We have read and studied various tax plans suggested by groups claiming to speak for manufacturers, financiers, real estate operators, property owners, independent retail trade, utilities and similar sections of the American business system.

"We find an alarming disposition reflected in these plans to ignore the ability of the ultimate consumer to pay additional burdens, from present or probable future earnings. There is a unanimous willingness to solve all tax problems by taxing someone else.

"We find the present tax structure of the Federal, state, and local governments dangerously constituted of patchwork and emergency provisions thrown together in the excitement of national depression and recovery conditions.

"We find that the general tax situa-

tion has been competently and thoroughly analyzed by such skillful and impartial groups as a special committee of the 20th Century Fund, Inc., The National Industrial Conference Board, by a voluntary collateral group assisting the New York State Tax Commissioner, and experts of the United States Treasury.

"We are forced to conclude that at least until now, governmental legislative bodies have regarded the tax problem from a viewpoint of political expediency rather than an intelligent distribution of tax charges according to tax payers' ability to pay.

"We find that labor's diligent efforts to defend and increase wage rates are being definitely offset by tax levies in such form that they fall inequitably upon the living status of working people.

"Our extensive review of the subject convinces us that taxes generated by depression emergencies are rapidly creating a future conflict between Federal and state taxing bodies. Granting of Federal Benefits on a fund-matching basis to states is extending the line of Federal control over state financing into a realm that undoubtedly will alarm old-line defenders of the principle of state rights.

"We also feel future tax and public financing programs should definitely announce investment plans for the growing pool of capital created by the Social Security Program. There is a dangerous uncertainty about this that will certainly affect business recovery financing, we believe.

"Upon examination, what is known as the high cost of living is unmasked as the high cost of 'hidden taxes' which account for 70 per cent of all tax revenue. They are piled, one on top of another, by Fed-

(Continued on page 54)

CITIZENS BANK OF HATTIESBURG, MISSISSIPPI

Resources over Two Million Dollars

Serving South Mississippi for Thirty-Six Years

Is It A Crime To Work ?

Always there have been periods of prosperity and adversity—good times and bad times.

Supply and demand is an old law that has a way of working in spite of attempts to overcome it. There have been many such attempts recorded in the pages of history, which have also recorded their failure.

It used to be said that depressions might be looked for with regularity in cycles of time, either seven or eleven years. They arrived when people having a full supply of goods stopped buying until what they had wore out or became obsolete.

We don't talk about such things now. We talk about ever-normal granaries, more leisure, when everybody should know a man must earn his living by his sweat, and that is the only way to do it—unless his wife supports him.

Both reformers and walking delegates have hard jobs in periods of prosperity, but they bloom in depression. Anybody who does not agree with their notions (which shift about) is a reactionary.

Their work now, when we have had a depression more severe than usual, but which most people believe would have been over long ago if we had not tried to remake the world, has been an example in diligence, but the one result has been to make matters worse.

Dr. Wicker, who writes here so succinctly on the subject of work, thus follows his "Is It a Crime to Have a Dollar?" which was printed in our August issue and has since been reprinted in many thousands for distribution in all parts of the United States.

The college of which Dr. Wicker is president has an enviable record, at present upheld by over 300 students coming from 27 states and several foreign countries and representing 17 different religious denominations. It can well be believed, as Dr. Wicker says, it stands for American ideals and principles, on which there will not be the slightest compromise.—Editor.

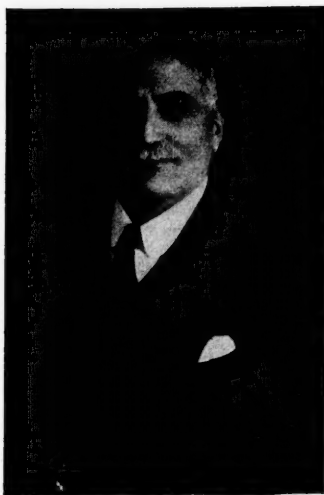
IS it a crime to work? A lot of people seem to think so.

Moses said "Six days shalt thou labor" and he meant a full day's work.

A lot of people today say it must be five or less, and a short day at that.

I take my stand with Moses. He lived a long time ago, he will not die, and you can't kill him.

The short work crowd will be on short rations some of these days and when they get a pinch in the belly it will react on the brains.



BY
John J. Wicker
President, Fork Union Military Academy
Fork Union, Virginia

Work will settle the *physical* problem. It will make men physically strong and healthy.

Work will settle the *mental* problem. An idle man does not think as he should. He who works well thinks at his best. We must have the man from his ears down, but his greatest value is from his ears up.

Thought and thrift are partners in every successful life.

Work will go far towards settling *moral* problems. Good circulation usually goes with character. Rapid streams are the purest. Stale waters are still.

The beginning of every gangster is his dislike of work.

The beginning of salvation is service.

Work will settle the *economic* problems.

This country is not suffering from overwork. Maybe some big business men with all sorts of unbearable troubles and burdens have more than their load, but the rest of us are in danger of a spree of idleness.

Many are over-worked trying to keep from work. Every legislation proposed is, "Get more and do less." Yesterday it was "Do more get less"—maximum muscle for minimum money. Now it is reversed.

This is a funny philosophy that may lead to serious consequences.

Idleness and all that goes with it, whether it be set in wealth or poverty, is the worst enemy of mankind.

The fourth commandant deals with labor and rest. "Six days shalt thou labor." If a man undertook to overthrow

any one of the other nine commandments his respectability would be in jeopardy.

We are over-consuming and under-producing and thereby creating an artificial life which ultimately will spell bankruptcy—of cash and character.

Work gives the best form of recreation and a strange paradox of resting.

People who set out to have a "good time" never arrive. A picnic is the most killing thing I ever attended and I never went on a Sunday school excursion that I did not come back half dead—all out for a "good time!"

Work will give a *big time*. It is one of the things that will "pep" a man up.

It is the finest cure for the blues. Work will give health, hope and happiness.

More people are dying on rubber wheels today than ever before.

It is the leather-foot crowd that will live.

Leg paralysis will be the destroying disease of tomorrow.

Work produces something and production is the finest reciprocity for invested personality that I know.

It has been said,

"All work and no play,
Makes Jack a dull boy,"

but all play and no work—what sort of Jack does that make?

I am in favor of letting children work. Of course the right kind of work, without which you will have great difficulty in saving the child. Mind you, I am not talking about that form of "child labor" carried on in sweat shops and by grinding, covetous, heartless employers, but rather that healthy form of work which every sensible person will require of his child.

I happen to be connected with an educational institution where there are more than 300 boys. No boy who has been brought up to work has ever brought a problem to our campus.

The late Elbert Hubbard was walking across a university campus with one of the professors when he observed a lot of young men cleaning off the sidewalks and Hubbard said, "I suppose these young men are helping work their way through school?" "No," said the professor, "it has been long since decided in this university that no man shall be taught any useful thing."

Parents who have brought their children up to work have not had much grief over their sons and daughters.

Boys and girls are spoiled by idleness. Soft mothers and hen-pecked fathers have more problem children than anyone else.

(Continued on page 42)

What Has Been Accomplished by Industry of Economic Value to the Country



Extracts from an Address by
Dr. Ernest B. Bengert
*General Assistant Chemical Director
 E. I. duPont de Nemours & Co.
 Before 19th Annual Convention of American Trade Association Executives*

IN recent years research laboratories have so multiplied that today research itself might be regarded as a major industry. According to the National Research Council there are in the United States more than 1500 industrial and consulting laboratories, employing some 23,000 workers. Dr. E. R. Weidlein, Director of the Mellon Institute, estimated last year's industrial research expenditures in excess of \$250,000,000. In the steel industry alone, the 1937 appropriation for research was over \$10,000,000.

Research Creates Jobs

Scientific research has opened up new avenues of employment for countless thousands through the development of new products which gave birth to new industries. Among such products are the automobile, dyes and other synthetic organic chemicals, rayon, electric refrigerators, the radio, and plastics. In 1900 the horse and buggy business gave jobs to around one million persons. In

1937, the automobile industry furnished employment, in making, selling, and servicing cars, to over six million persons.

Fifteen of our major manufacturing industries have been developed since 1879, and it has been estimated that they have created, directly and indirectly, 15,000,000 new jobs.

Manual Labor Reduced Through Research

Man works fewer hours than formerly. The Machinery and Allied Products Institute has shown that to earn a year's supply of clothing for a family of four, plus an automobile and eight representative items for the home, the average factory laborer had to work 4316 hours in 1914, in comparison with only 1488 hours in 1936—a reduction of 65 per cent in working hours.

Hourly and monthly wages increased. According to the National Industrial Conference Board, the average hourly wage for factory workers in July 1914 was less than 25¢, while in November 1936 it was over 62¢. What is probably more significant, however, is that this increase in hourly wage rate was accom-

plished with no reduction in monthly wages. In the case of the du Pont Company, for example, the average monthly wages at the end of 1937 were 13 per cent higher than in 1929, although the number of hours worked was 20 per cent less.

Scientific research has thus provided leisure, supplied money, and conserved energy for enjoyment of the better things for better living which it has created.

Natural Resources Conserved Through Research

Gasoline and oil. By the process known as cracking, approximately twice as much gasoline is obtained from a barrel of crude oil as was formerly obtained by straight distillation. In effect, this means doubling our oil reserves as far as gasoline is concerned. Industrial research has recently gone further in this direction by developing a process for making motor fuel from refinery gases, which formerly were wasted.

Synthetic plastics now find application in the fabrication of a wide variety of articles, many of which were formerly made from such natural products as

(Continued on page 54)

THE JANUARY 1939 ISSUE OF THE MANUFACTURERS RECORD

Due to the fact that the January 1939 MANUFACTURERS RECORD will be a review issue, the resource map and article relating to Missouri which had been tentatively scheduled for January, will be printed in the February issue with the other states following in succeeding issues in alphabetical order.

The January issue will contain a review of the South's major industries during 1938 and included among the articles will be:

Chemical Industry by Dr. E. Emmet Reid, Professor emeritus at Johns Hopkins University and chemical consultant for several chemical manufacturers.

Construction by S. A. Lauver, News editor of Construction.

Cotton Textiles by Dr. Claudius T. Murchison, President, Cotton-Textile Institute.

Cottonseed Products by S. M. Harmon, Secretary, National Cottonseed Products Association.

Electric Power by C. W. Kellog, President, Edison Electric Institute.

Fertilizer by C. J. Brand, Secretary, National Fertilizer Association.

Finance by Robert Strickland, President, Trust Company of Georgia.

Iron and Steel by Walter S. Tower, Secretary, American Iron and Steel Institute.

Lumber—Author to be announced.

Petroleum by Victor Scales, Director of Public Relations, American Petroleum Institute.

Pulp and Paper by Major D. G. Moon, Consulting engineer and Chairman, Southern Paper Festival.

Railroads by Dr. J. H. Parmelee, Director, Bureau of Railway Economics.

Shipbuilding by H. Gerrish Smith, President, National Association of American Shipbuilders.

Southern Manufacturing

Number of Establishments, Value of Products, Wages, and Employees in comparison with the rest of the United States.

Kind of Manufacture	SOUTH					REST OF THE UNITED STATES				
	Number of Establishments	Number of Employees	Wages (add 000)	Cost of materials, containers, fuel purchased, electric energy (add 000)	Value of Products (add 000)	Number of Establishments	Number of Employees	Wages (add 000)	Cost of materials, containers, fuel purchased, electric energy (add 000)	Value of Products (add 000)
Beverages	1,460	18,564	\$20,110	\$89,235	\$212,129	3,087	53,753	\$72,844	\$261,149	\$655,635
Boots and shoes	76	31,387	24,564	58,468	110,407	948	170,726	147,785	274,755	533,465
Canning	814	22,400	8,972	53,709	82,028	1,930	93,898	61,640	355,437	567,616
Cars, electric and steam with repairs	182	44,163	56,317	45,886	109,942	643	132,628	175,785	203,353	410,697
Cement	29	3,944	3,403	7,433	21,802	124	16,754	17,501	35,505	98,615
Chemicals, drugs and sundries ..	533	16,636	17,108	80,669	182,851	2,527	88,246	101,747	412,242	992,557
Clay products	328	19,470	14,375	13,537	41,124	1,003	53,958	48,316	42,412	136,851
Clothing, men's and women's ..	717	37,927	28,283	59,278	121,459	10,728	375,698	359,122	855,251	1,763,230
Coke-oven products	14	2,069	2,167	13,939	18,302	74	14,625	19,408	166,618	220,402
Concrete products	222	2,179	1,624	5,911	11,484	1,002	6,220	6,210	14,200	33,483
Cottonseed oil, cake and meal ..	415	11,770	5,161	140,147	163,037	43	1,456	750	20,393	24,850
Dairy products	995	8,251	7,439	90,353	129,293	7,950	40,306	41,440	648,876	852,047
Feeds for animals and fowls ..	187	2,709	1,954	46,726	58,815	755	8,897	9,114	183,862	229,847
Fertilizers	476	13,091	7,287	65,678	97,365	194	4,382	3,680	27,686	43,021
Flour and other grain mill products	859	8,517	7,305	195,568	231,388	1,334	17,978	19,800	520,644	621,831
Food and food preparations ..	3,659	54,509	50,397	236,100	377,909	18,653	241,803	270,705	1,066,062	1,818,504
Furniture, also rattan and willow	534	39,937	27,095	50,447	102,096	2,705	99,850	91,406	163,208	346,839
Glass	62	14,002	15,211	20,693	52,075	151	53,136	56,232	89,315	231,851
Ice, manufactured	2,031	9,020	8,028	11,692	53,737	1,819	10,012	12,606	16,329	74,649
Leather and allied products (not shoes)	86	5,200	4,108	24,867	36,472	1,040	56,714	62,152	217,624	353,419
Lumber and timber products ..	5,020	175,032	91,746	159,974	352,753	5,017	171,942	163,193	229,755	529,828
Machinery (electric) and supplies	114	7,630	7,103	17,808	43,481	1,279	172,011	190,944	353,096	916,949
Machinery and machine shops ..	1,245	28,923	30,486	45,280	123,036	6,084	294,397	345,312	500,538	1,296,258
Marble, granite, slate, etc.	341	4,205	3,445	3,733	12,235	1,063	11,019	12,748	14,520	44,242
Packing plants	482	20,586	20,333	303,904	361,900	2,111	113,276	131,291	1,906,133	2,223,508
Paints, pigments and varnishes ..	158	3,718	3,783	27,522	51,625	924	23,868	28,404	204,461	365,375
Paper, paper products and pulp ..	261	22,107	19,778	94,660	157,125	1,552	205,714	207,975	771,525	1,325,493
Petroleum refining	160	28,469	37,902	545,195	663,490	235	48,933	71,708	933,029	1,175,132
Pipe and fittings, cast iron ...	30	7,389	5,173	7,565	19,852	41	6,154	4,197	7,233	18,018
Printing and publishing	4,173	42,434	57,349	64,173	273,506	15,667	202,942	304,314	364,605	1,618,133
Rice cleaning and polishing ..	49	1,365	816	21,939	28,138	19	660	496	12,275	15,975
Steel, structural iron and metal work	542	34,344	36,759	116,939	197,109	4,028	482,855	566,052	1,537,664	2,680,324
Sugar refining, cane	4	2,785	1,766	51,359	58,073	14	11,047	12,147	284,817	319,141
Textiles	1,822	464,997	293,440	744,782	1,246,934	5,800	516,035	419,975	875,174	1,558,539
Tobacco and tobacco products ..	103	32,472	22,580	557,497	721,018	1,562	138,537	88,686	970,641	1,330,336
Turpentine and rosin	894	27,164	6,496	7,303	19,166	1	84	24	17	67
Wood preserving	54	3,769	2,142	17,512	25,810	131	5,216	4,497	40,254	54,558
Wool and hair manufactures ..	32	8,426	6,117	24,111	40,283	667	158,178	146,232	407,456	670,457
Other industries	4,918	286,180	263,729	1,289,050	2,026,003	27,209	1,004,026	1,410,190	3,586,768	7,097,611

Railroads Play Major Role in Mississippi Economic Life

MISSISSIPPI'S 4000-mile system of steam railroads constitute one of the state's vital economic forces. With their vast fleet of locomotives and cars, their many repair plants, stations, storage yards, docks, terminals and other facilities, the twenty-odd railway companies which operate in Mississippi represent investments running into hundreds of millions of dollars.

Upon the day-by-day service provided by these railroads, Mississippians depend for their mail, parcel post and express, for passenger transportation, and, most important of all, for the prompt and dependable transportation to all parts of the country of their cotton, cottonseed, fruits and vegetables, logs and lumber and their numerous manufactured products.

Essential as railway transportation is, it is but one of several important contributions which the railroads are making to the well-being of Mississippi and its citizens.

Railroads rank among the leading buyers of the products of industry. They normally consume one-fifth of the nation's output of lumber, and Mississippi's foremost industry, aside from agriculture, is the production of lumber and other forest products. Mississippi cross-ties are in extensive use not only in Mississippi, but on railroads throughout the country. Mississippi poles are carrying telegraph wires in many states. Mississippi yellow pine lumber is doing service in thousands of railway bridges, station buildings, platforms, and roadway and shop buildings in many parts of the country. Railway purchases in lumber, poles, and ties in Mississippi run into millions of dollars annually. Scores of lumber mills in the state depend upon the railroads to take a substantial share of their products. This huge railway market helps to keep thousands of Mississippi workers employed.

Only reasonably prosperous railroads are able to spend large sums for improvements and for adequate renewals of ties, bridges, buildings, equipment and other facilities. Impoverished railroads must skimp and save, curtail buying, cut payrolls, defer maintenance and postpone improvements.

A striking illustration of the wide fluctuations in railway buying is furnished by the figures of Class I railroads of the United States for the last fourteen years. In the seven comparatively prosperous years 1924-1930, the railroads spent an average of \$167,000,000 annually for forest products, whereas, in the seven lean years 1931-1937, their expenditures for forest products averaged only \$68,000,000

annually, a reduction of fifty-nine per cent.

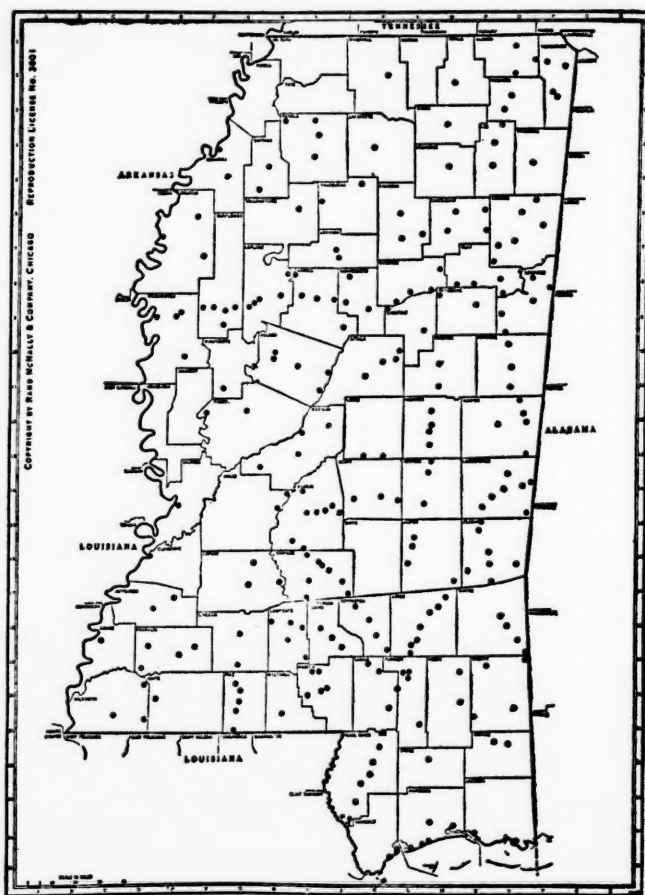
Had average annual railway expenditures for forest products in the last seven years been on the same level as during the previous seven years, the forest industries of Mississippi would have received many millions of dollars more than they did during that period, and this would have provided employment to many thousands of workers in the lumber industries.

Forest products are by no means the only items on the railway shopping list in Mississippi. Railway dining cars, serving more than 25,000,000 meals annually in the United States, are consumers of Mississippi tomatoes, watermelons, pickles, sea foods, and other farm products. Hundreds of thousands of dollars are spent annually by the railroads in Mississippi for ballast materials, hardware supplies, electrical supplies, foundry products, bagging, oils and greases, sta-

tionery and printing, office supplies, and so on.

The widespread distribution of railway purchases in Mississippi is indicated by the fact that some, but not all, of the railroads reported that in 1937 they purchased materials and supplies in 247 cities and towns in seventy-two of the state's eighty-two counties.

No fewer than seventy railway companies in the United States are buyers of Mississippi products. A nation-wide survey recently made by the Association of American Railroads shows that, in addition to twenty-two railway companies, large and small, which operate in the state, forty-eight "non-resident" Class I railroads were purchasers of Mississippi products last year. Of the latter four were in New England, twelve in the Great Lakes region, nine in the Central Eastern region, three in the Pocahontas Coal region, five in the Southern region, five in the Northwestern region, six in the Cen-



The railroads purchased materials and supplies in 247 cities located in 74 of Mississippi's 82 counties.

tral Western region, and four in the Southwestern region.

The eight largest railroads operating in the state reported Mississippi purchases totaling \$4,530,000 last year. One large Eastern railroad purchased nearly \$500,000 worth of Mississippi products during the year. Altogether fifty-five resident and non-resident railroads are known to have spent \$5,729,000 in the state in 1937, not including expenditures by Mississippi railroads for miscellaneous items such as water, ice, electricity, laundry service, telephone service, payments to contractors, rentals, traveling expenses and advertising.

Even more widespread than railway purchases in Mississippi is the distribution of railway taxes for the support of state, county, city and town governments. Every community and every county in which the railroads operate share in the benefits of railway taxes. Eight leading railway companies in Mississippi reported total tax payments in the state last year of \$3,416,000. The amount of taxes paid by twelve small railroads operating in the state is not known, but their payments probably boosted total railway taxes to nearly \$4,000,000, not to mention personal and property taxes paid by railway employees, many of whom are home owners.

According to latest available statistics, based upon 1931, thirty-seven per cent of all railway taxes in Mississippi goes to the support of public schools. Public school expenditures per pupil enrolled in Mississippi amount to approximately \$37 a year. On this basis, and with due allowance for social security taxes, the school taxes paid by the railroads in Mississippi in 1937, amounting to approximately \$1,170,000, were sufficient to defray the public expense of educating around 31,600 school children.

Still another major contribution of the railroads to the economic well-being of Mississippi is in the field of employment. Railroads rank among the largest employers of labor in Mississippi. A state-wide canvass of active employees in July, 1937, disclosed that eight leading Mississippi railway companies were providing employment to 10,500 persons in the state. It is estimated that employees of smaller rail-



Longleaf pine in the timber treating plant of the Illinois Central System.

roads operating in the state would increase this figure to approximately 11,500. These railway employees rank among the best paid industrial workers in Mississippi. They maintain a high standard of living, and are substantial citizens of the communities in which they live.

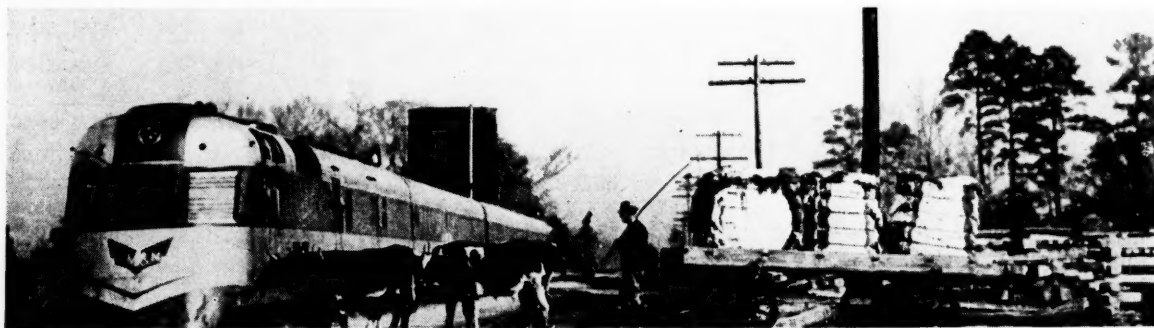
Flowing continuously into the channels of trade throughout Mississippi are the pay checks for this large army of railway employees. The eight major railroads in Mississippi reported payrolls in the state last year totaling \$14,187,000. Every city and nearly every town and community in which the railroads operate shares in the benefits of this huge payroll.

Approximately forty-five cents out of every dollar received by the railroads is paid out in wages. Payrolls rise and fall

with railway earnings. In such cities as Jackson, Vicksburg, Meridian, Hattiesburg, Louisville, Columbus, Amory, New Albany, Water Valley, Grenada, Macomb and Gulfport, where there are many railway workers, railway employment is a barometer of local prosperity.

The combined expenditures in Mississippi of the eight leading railroads of the state for labor, materials, supplies, fuel, and taxes in 1937 totaled approximately \$1,000,000 for every sixteen days of the year. Their total expenditures in Mississippi for these purposes exceeded \$23,000,000. Expenditures of the several small railroads, operating some 450 miles of railroad in the state, are not included in the above figure. Total expenditures of all railroads for all purposes in Mississippi would probably increase the figure to upwards of \$25,000,000.

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Southern Construction

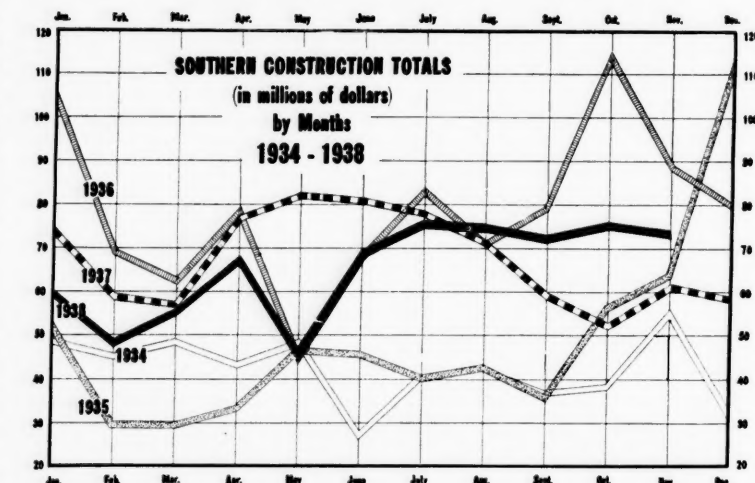
SOUTHERN construction in November totaled \$73,246,000, a figure within four per cent of the peak of the year reached during July. Governmental contracts soared to predicted high levels as the Treasury, Navy and War departments proceeded with huge undertakings and various educational agencies and municipalities rushed to get school and water and sewer projects started under the current Public Works program.

A forty-three per cent rise in industrial construction, came with announcements for several large additions to the South's manufacturing facilities. Public projects with industrial features, such as Rural Electrification Administration and Tennessee Valley Authority work, did not contribute as largely to November's total as during the preceding month.

Highway and bridge construction fell below that for October. It was in the general building field, however, where the most drastic decrease occurred. This type of work, which during the preceding month had shown encouraging gains, slowed to approximately one-half pace, as residential awards dropped sharply. The only increases were for churches and buildings being erected by association and fraternal organizations.

Construction for the year so far is slightly less than five per cent behind that for the comparable period of 1937. The total for the current eleven months is \$715,304,000. General building and industrial and engineering awards are well below those for last year's first eleven months. Public buildings and highway and bridge projects show decided increases.

A study of the accompanying chart "Southern Construction Totals" will show not only the course of monthly construction totals during the last half of 1938, but for other years also. The cur-



rent November trend has neither the drastic drop or sudden rise of the other eleven months. This strength is expected to continue for the balance of the year, mainly because of the great volume of public construction.

Power plant construction loomed as an important factor toward increased industrial activity as the Duke Power Co., of Charlotte, N. C., announced that work would begin soon on a new \$2,000,000 plant on a site yet to be chosen. The plant, which will have a generating capacity of 80,000 kilowatts, will require about two years to build and upon completion will be the second largest in the Duke system. It is understood that this project will be the first of several new steam plants to be erected by the company within the next several years. Recent dry spells have forced an increase of steam plants to a point where they will be independent of hydro-generating facili-

ties.

A new water wheel is to be added to the Charles Town, W. Va., plant of the Potomac Edison Co. Repairs and reconstruction of the burned portion of this plant has just been accomplished. S. Morgan Smith Co., of York, Pa., and the Westinghouse Electric & Manufacturing Co., of Pittsburgh, Pa., are furnishing the additional equipment. Potomac Edison recently completed a \$3,000,000 steam plant at Cumberland, Md., adding 30,000 kilowatts to its generating system. Definite plans are now being made by the Consolidated Electric Light & Power Co., of Baltimore, for the topping plant at its Westport steam station. Potomac Electric Power Co., of Washington, D. C., continued studies of the proposal to construct a new unit in addition to the 35,000-kilowatt plant recently erected. The programs of the San Antonio (Texas)

(Continued on page 36)

Statistics of the South's Construction

	Contracts Awarded November 1938	Contracts Awarded November 1937	Contracts to be Awarded November 1938	Contracts to be Awarded November 1937	Contracts Awarded 1st Eleven Months 1938
GENERAL BUILDING					
Apartment and Hotels	\$1,571,000	\$1,600,000	\$7,993,000	\$2,571,000	\$39,375,000
Association and Fraternal	433,000	235,000	93,000	238,000	2,372,000
Bank and Office	115,000	346,000	570,000	1,190,000	9,701,000
Churches	528,000	554,000	998,000	1,383,000	7,807,000
Dwellings	2,947,000	7,152,000	5,304,000	5,373,000	62,683,000
Stores	1,715,000	2,232,000	1,085,000	1,844,000	29,329,000
	\$7,309,000	\$12,119,000	\$16,043,000	\$12,599,000	\$151,267,000
PUBLIC BUILDINGS					
City, County, Government and State ..	\$16,734,000	\$3,575,000	\$25,160,000	\$18,170,000	\$105,631,000
Schools	17,811,000	4,630,000	23,382,000	31,998,000	79,179,000
	\$34,545,000	\$8,205,000	\$48,542,000	\$50,168,000	\$184,810,000
ROADS, STREETS AND BRIDGES	\$12,493,000	\$11,777,000	\$40,140,000	\$53,149,000	\$186,790,000
INDUSTRIAL AND ENGINEERING					
Drainage	\$3,838,000	\$7,819,000	\$4,823,000	\$6,522,000	\$35,015,000
Filling Stations and Garages	180,000	918,000	135,000	648,000	4,598,000
Industrial Plants	10,490,000	14,278,000	33,999,000	55,163,000	128,400,000
Sewers and Waterworks	4,391,000	5,997,000	25,626,000	9,878,000	24,424,000
	\$18,899,000	\$29,012,000	\$64,583,000	\$72,211,000	\$192,437,000
TOTAL	\$73,246,000	\$61,113,000	\$169,308,000	\$188,127,000	\$715,304,000

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**Especially after 7 P.M. or all day Sunday!*



Southern Construction

(Continued from page 34)

Public Service Co., and the Oklahoma Gas and Electric Co., Oklahoma City, will approximate \$1,000,000 and \$1,850,000, respectively.

Contracts were awarded by the American Tobacco Co. for its \$500,000 Durham, N. C., plant addition. George W. Kane, a local contractor, received the general award, with the sprinkler system going to the Grinnel Co., and elevators and hatchway doors, to the Westbrook Elevator Manufacturing Co., of Danville, Va. The project will be the second under construction for the company in the South. It will be five floors high, cover a site 288 by 92 feet and contain a gross cubic footage of 2,871,000. The other building is located at Richmond, Va., where the Wise Contracting Co. is erecting a large research laboratory, one-story in height, 110 by 136 feet, and of Colonial design with rough texture brick exterior, limestone base, pilasters, and trim. Designs for both are the work of Francisco and Jacobus, New York engineers and architects.

American Cyanamid & Chemical Corp., of New York, will establish a plant on a newly acquired site bordering the Sampit River, at Georgetown, S. C. Now completing a similar plant at Mobile, Ala., the corporation announced that construction and remodeling will begin at once on the 72-acre tract, which was formerly the site of a large lumbering operation and already contains large manufacturing buildings, including a boiler house and office building. The first unit to be installed will produce sulphate of alumina, a product used for water purification and in the manufacture of paper. Work will be done by the corporation's own forces.

Two previously announced plants—one in Alabama and the other in Virginia—showed signs of stirring out of the inactive stage. Resumption of work on a six-mile spur of the Southern Railway into the Sheffield, Ala., site of the proposed \$5,000,000 plant of the Electro-Metallurgical Co., a unit of the Union Carbide and Carbon Corp., is interpreted as meaning that definite preparations are now being considered to start actual construction. Ferro-alloys, calcium carbide

and other electric furnace products will be manufactured. Power is to be obtained under contract from the Tennessee Valley Authority.

The \$10,000,000 plant of the American Cellulose and Chemical Manufacturing Co. projected for a 1,700-acre site near Pearisburg, Va., was the other project bordering on materialization, as reports from various points indicated that construction would soon begin. Officials of the company, however, stated that nothing had been done toward letting a contract. To be much larger than a plant operated by the company at Cumberland, Md., where between 10,000 and 15,000 workers are employed, the new plant will produce an entirely new type of yarn. Surveyors of the Virginia Department of Highways and the Virginian Railway have recently been making studies of highway and rail connections with the plant location. No residential village is contemplated.

Considerable rehabilitation is to be undertaken at Chickasaw, a suburb of Mobile, Ala., as the result of the Gulf Shipbuilding Corporation's acquisition of the old Chickasaw Shipbuilding & Car Company's plant built 20 years ago at a cost estimated close to \$20,000,000. A newly organized concern, the Gulf corporation is backed by Mobilians and has an authorized capital of \$1,000,000 with \$250,000 paid in. T. M. Stevens is vice president and general counsel. Surveys for what is to be done have not yet been completed and it will be weeks before these will be completed, according to W. P. Spofford, of the Gulf engineering department. The Ingalls Iron Works plant at the yards will be moved to Pascagoula, Miss., where the site of the old International Shipbuilding Co. has been purchased. Ways, fabricating buildings and offices will be erected if contracts are received for large vessels, such as those now being built for the Maritime Commission.

Gadsden, Ala., where the Republic Steel Corp., operates its Southern plant will see expenditure of a large part of the \$1,250,000 appropriation made for plant improvements. The Continental Oil Co., of Ponca City, Okla., will increase its gasoline manufacturing capacity by installing a \$1,250,000 cross cracking unit.

M. W. Kellogg Co., of New York, has the contract. An additional expenditure of \$250,000 is to be made for revision of equipment, rearrangement of the steam system and improvements to pumping and electrical facilities.

Monsanto Chemical Co. announced a preferred stock issue approximating \$5,000,000 for continuing its improvement program. The company has plants at St. Louis, Mo., Monsanto, Tenn., Nitro, W. Va., and Anniston, Ala. Glenn L. Martin Co., Baltimore airplane manufacturer, announced a proposition to issue stock with a valuation estimated at over \$3,000,000. Part of this capital is to be used for constructing a new air field at the Middle River plant near Baltimore. About a year ago, the Martin plant was expanded by completion of a \$2,000,000 program. Bata Shoe Co., a Czechoslovakian concern with offices in New York and Chicago, executed an agreement with the State Roads Commission for access connections across the Nice Highway which was constructed through the company's property near Belcamp, Md. It is understood that a large manufacturing plant is proposed for the property, although no date for beginning work has been announced.

The Rust Engineering Co., of Birmingham, Ala., submitted a low \$118,600 bid for the storage shed to be constructed under the \$1,060,000 expansion program of the Alabama State Dock Commission at Mobile. Included in the work to be done is a reinforced concrete wharf, 1,225 feet long, a 1,000-foot transit shed and an extension of the wharf on which the new bulk handling plant building is to be erected. The Raymond Concrete Pile Co., is now constructing the new wharf. Lone Star Wool and Mohair Mills, of New Braunfels, Tex., will probably ask bids in about two weeks for remodeling its present building and installing equipment and machinery, altogether estimated to cost \$250,000.

Preliminary work has been started by the Hercules Powder Co. for a \$100,000 addition at Hopewell, Va., to be used in the manufacture of caustic soda for the company's cellulose process. The unit will consist of three one-story corrugated iron and steel frame buildings.

Representative Southern Projects

Proposed Construction

Ala., Gadsden—Republic Steel Corp.	\$1,250,000
Plant improvements	
D. C., Washington—Civil Aeronautics Authority	
Gravelly Point Airport	6,300,000
Fla., Jacksonville—City	
Water distribution system enlargement	452,000
Ga., Rome—City	
Water works improvements; Robert & Co., Engrs., Atlanta	435,000
La., New Orleans—Treasury Department	
Federal office building	2,200,000
Md., Bethesda—Treasury Department	
Laboratories, officers quarters (Nat'l. Institute of Health)	750,000
Miss., Gulfport—City	
Municipal warehouse; Shourds & Bean, Archts., Engrs.	300,000
Miss., University—University of Mississippi	
Faculty dwellings, apartment; Stevens & Johnston, Starkville, Archts.	175,000
Mo., Clayton—Phelix B. Magidson	
Apartments	270,000
S. C., Columbia—University of South Carolina	
Men's dormitory	300,000
Tenn., Chattanooga—Louis H. Bull, Archt.	
Apartment House	400,000
Tex., San Antonio—San Antonio Public Service Co.	
Improvement Program	1,000,000
Va., Clarendon—Calvin Haley, B. M. Smith and E. R. Lady	
Apartment Development	3,000,000

Contracts Awarded

Fla., Pensacola—Bureau of Yards and Docks	
Quarters, Barracks, Dispensary (Naval Air Station); Algernon Blair, Montgomery, Ala., Contr.	\$678,000
Ga., Atlanta—Capitol Square Improvement Commission	
Office Building; Mion Construction Co., Atlanta, Contr.	752,000
Ky., Ashland—Treasury Department	
Federal Jail; Great Lakes Construction Co., Chicago, Ill., Contr.	1,118,000
Miss., Sardis—U. S. Engineer Office	
Spillway (Sardis Dam); Hooper Construction Co., Bunnell, Fla., Contr.	1,674,000
N. C., Durham—American Tobacco Company	
Factory; George W. Kane, Contr.	500,000
Okla., Ponca City—Continental Oil Co.	
Cross Cracking Unit; M. W. Kellogg Co., New York City, Contr.	1,250,000
S. C., Charleston—U. S. Engineers	
Dredging (Intracoastal Waterway); Walter S. Rae, Pittsburgh, Pa. (low bidder)	919,000
S. C., Parris Island—Bureau of Yards and Docks	
Barracks, Main Station, Mess Hall, Galley Building (Marine Station); J. A. Jones Construction Co., Charlotte, N. C. Contr.	1,044,000
Tex., College Station—A. & M. College	
Dormitory buildings, Dining Hall; Bellows Construction Co., Houston, Contr.	1,338,000

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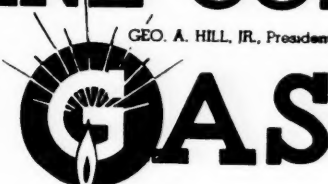
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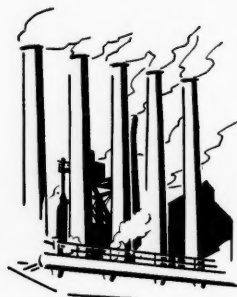
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Market

THE steel operating rate for the last week in November was 60.7, which was a decrease of 1.2 from the week before. It is not unusual at this time for large consumers to withhold new buying as inventory time approaches.

Talk is already being heard regarding prices for delivery in the first quarter of 1939. It is not expected by those who study market conditions closely that there will be any advance in quotations. Demand for some finished steel is holding up fairly well at about recent levels.

There has been some improvement in tin plate buying with operations increasing up to approximately 35 per cent of capacity. Sheet and strip production is being maintained with the possibility, in view of the schedules the automobile manufacturers hope for in January and February, additional orders from this market may materialize probably before the first of the year.

Scrap continues firm, with no material being forced on the market. Quotations on number one heavy melting steel scrap is now \$15.50 to \$16.00 a ton.

Birmingham Steel Operations

At Birmingham the production rate was sustained with the Tennessee Coal, Iron and Railroad Co. employing additional men at two of its coal mines, bringing all coal operations on a double shift. The company's eight blast furnaces and eleven open hearths are all in operation.

Republic Steel and Woodward Iron Co. are operating all their blast furnaces, while Sloss-Sheffield has two of its four furnaces active.

Starting of the Ensley rail mill has been announced and expectation is it will be kept in continuous operation for some months to come.

The Birmingham district production has remained at 75 per cent, with pig iron at close to full capacity.

Louisville & Nashville Railroad announced the purchase of 17,280 tons of 100-pound rail from the Tennessee Coal Iron and Railroad Co.

TCI has shipped the first two of its all-steel farm units to sites selected by the Farm Security Administration. This is the first of twelve such units, ten of which are to have five buildings each. The Farm Security Administration says they are "to

determine by actual living experience the advantages of metallic construction of farm buildings."

The cost was estimated, on a 5-room dwelling, to range from \$1,695 to \$1,904; the barns from \$688 to \$900; poultry houses from \$154 to \$167, etc.

Dwellings contain a living room, three bedrooms, combination living and dining room, as well as closets, with space available for a bath room.

Approximately six tons of steel are used in each dwelling. All of the foundation structure, the frame, sides, roof, outside door and window trims and fireplace are of steel. Doors and floors are of wood, and an insulating wall board is used as interior finish.

Twelve and a half tons, approximately, go into the five buildings.

Some months ago there were described in the MANUFACTURERS RECORD residences of steel erected by the T.C.I. at the Green Belt government development near Washington.

Structural Market

In structural steel October was better than for any month during the past twelve, according to the American Institute of Steel Construction, which estimates that the industry received during the first ten months of this year orders for 922,996 tons. This was a drop from a like period of 1937, when the total for ten months was 1,396,718 tons. In this year, however, which October tops, so far the closest approach to it was in August when estimated total tonnage for the industry was 106,772.

Bethlehem Steel Corporation booked a contract for a court house at Philadelphia requiring 2,450 tons of shapes and 135 tons bars.

Approximately 15,000 tons of steel will be needed for transmission towers for the Department of Water and Power at Los Angeles. American Bridge Co. was low bidder.

Bethlehem was also low bidder on 4,000 tons shapes for the Mare Island Navy yard, besides being low on 3,000 tons shapes and other work at the Norfolk Navy yard.

Other Metals

Export prices of copper at the close

of the month were 10.27½ cents a pound. Lead dropped 10 points to 5 cents in New York and 4.85 cents in St. Louis. Zinc was reduced to 4.50 cents at East St. Louis.

The prospect of imports of foreign metal was regarded as responsible for the price reduction. There figures in this the reduced value of the pound in terms of dollars. London lead prices approached the point where this metal could compete in the United States markets notwithstanding the tariff that applies. Some of this pressure may be relieved as and when Sterling recovers in the foreign exchange market.

Zinc producers don't like the trade treaty recently signed with Great Britain, regarding it as harmful to American zinc interests with the prospect of bringing about a price level under present cost of American production.

"Steel Facts"

"Steel Facts," issued by the American Iron and Steel Institute, is always interesting. The November issue points out that the first steel ever made in Birmingham from local ores was produced in 1888.

During 1937 the steel industry's tax bill of \$169,000,000 represented nearly \$5 for each ton of finished steel produced, or about 70 per cent more per ton than in 1929.

The steel industry produces about 500 classes of products and offers them in as many as 100,000 variations of size, shape and finish.

Steel workers have earned an average of more than 82 cents an hour over the past two years, or 27 per cent more than the average reported for major industries by the United States Department of Labor.

The Rookery, erected in Chicago in 1887, was the first large steel-framed building of skyscraper construction to be built in this country.

The net property value of the steel industry at the end of 1937 was nearly \$3,250,000,000.

The steel industry can produce about 70,000,000 tons of ingots a year, or 1,328,000 tons per week. In one week in 1937, output totaled 1,220,000 tons.

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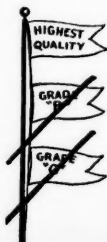
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*N. C. Dept. of Conservation
and Development*

\$10,000,000 Invested in New Plants and Additions During First Eight Months of 1938

THE industrial growth of North Carolina and its diversity of manufacturing is not due to accident, nor entirely to the state's natural advantages. Internal improvements in such matters as transportation, power development, and sound government policies must be considered of great consequence.

At present the state is engaged in a broad program of industrial expansion to interest capital and to better and bolster existing industrial organizations.

This program is backed by a comprehensive campaign of advertising and promotion, but is not being conducted with the idea of attracting industrial enterprises of a dubious or unstable nature. North Carolina does not feel compelled to make large concessions in order to lure prospective capital. It is determined its advantages shall be utilized only by reputable manufacturers capable of bringing lasting good. The belief is held that the state's natural advantages for manufacturing and marketing more than balance free taxes and other grants prevailing in some states.

A survey by the Division of Commerce and Industry of the North Carolina Department of Conservation and Development shows for the first eight months of 1938 the beginning of 92 new industries and 53 plant additions. The total investment amounted to approximately \$10,000,000.

Hosiery led with 30 new operations established and 31 plant expansions. For

the year 1937 the full-fashioned hosiery industry showed a gain of 1 per cent in the South as a whole. During the same period North Carolina gained 4 per cent. During 1937, 280 full-fashioned machines were moved into the South, and of this number four-fifths were set up in North Carolina.

One of the most interesting developments among the new industries is that of the Ecusta Cigarette Paper Company, whose \$2,000,000 plant is now under construction in Brevard. In many respects this will mark the beginning of a new industry in America as almost all of the high type cigarette paper used by the leading cigarette manufacturing companies is imported from France.

Additions by Ethyl-Dow Chemical Company and the American Enka Corporation were major developments in the chemical field.

The recently inaugurated state advertising program, carrying a \$250,000 appropriation for 1937-38 made by the General Assembly had considerable weight in these industrial gains. The effects of prompt and thorough servicing of all inquiries received by the Division of Commerce and Industry have been most worthwhile. The scope of the activities of this office can be understood better when it is known that the personnel, consisting of experienced industrial engineers, prepare and deliver exhaustive individual reports to industries desiring to locate in North Carolina, make personal



The new \$2,500,000 addition to Ethyl-Dow Chemical Company at Kure Beach, N. C.

contacts with the principals of the firm, arrange meetings with local citizens interested in the enterprise, aid in selecting suitable buildings or sites, and in many other ways lend assistance to prospective manufacturers. These services, of course, are rendered without cost to the industrial prospect.

The substance of North Carolina's inducements is as follows:

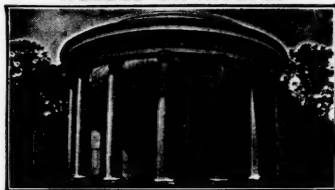
1. A natural advantage in location with regard to climate, raw materials, markets and factors which result in low cost operating conditions.
2. Population almost 100 per cent native born, peace-loving, contains large numbers of workers skilled in many lines of manufacture.
3. Good roads and other transportation facilities, power development, public health and education, recreational facilities.
4. State's fiscal policy. During the last eleven years the bonded indebtedness, including all new borrowings, has been reduced more than \$85,000,000. Various cities and counties in six years have reduced their indebtedness \$42,000,000. Constitutional amendment requires state, cities, towns and counties to pay off three dollars of existing debt for each two dollars of new debt incurred. The last fiscal year closed with a surplus of \$7,671,218 in the general fund. No state tax on real property; the only state maintaining all public schools for a uniform minimum eight months term, all of the county roads as well as state highways, and all prisoners from state funds without the imposition of any local property taxes.
5. Specific advantages offered to following types of manufacture: woolen and worsted, silk and rayon, hosiery, finished and dyeing, apparel, chemicals and allied products, pulp and paper, mineral industries, and food and kindred products.

Site of the \$500,000 addition to American Tobacco Company's plant at Durham, N. C.



SOUTHLAND PRODUCTS

—WELDED OR RIVETED—



Million gal. Tank at White Sulphur Springs, W. Va.

CHATTANOOGA BOILER & TANK CO.
CHATTANOOGA, TENN.

We now manufacture and offer to the trade tanks in all sizes for pressure or gravity work. Also other steel equipment of either

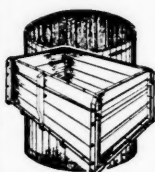
**WELDED
OR RIVETED
CONSTRUCTION**

This applies to field as well as shop built equipment.

Write us for information and quotations.

WOOD TANKS

Wood Stave Pipe



Our products are designed, built and erected by experienced tank makers.

Tanks any size for all purposes.

Towers any height for tanks.

Write for literature and prices.



THE BALTIMORE COOPERAGE TANK & TOWER CO.
Baltimore, Maryland

The Largest Works of Its Kind in the South

FILTERS

Water Filters for Municipalities, Textile Finishing Establishments, Rayon Manufacturing Plants, Swimming Pools, Raw Water Ice Plants, Laundries, etc.

ROBERTS FILTER MANUFACTURING COMPANY
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Water Purification Plants

Any Type—Any Purpose—Any Capacity

Dry Chemical Feed Machines
Swimming Pool Filters

E. W. BACHARACH & CO.

Rialto Bldg.

Kansas City, Mo.

DAVIS CYPRESS TANKS

A cypress tank will last indefinitely, and that's the kind we have been making and installing in the South for 50 years. Our experience should mean something to every tank user.



Let us hear from you.

G. M. DAVIS & SON
P. O. Box 5, Palatka, Florida



LIQUID CHLORINE

"The Great Purifier"



At the turn of the century, when Chlorine was first introduced as a water purifying agent, there ensued a widely publicized lawsuit to prevent its use. Curiously enough, instead of preventing the use of liquid chlorine, the facts of the case so clearly demonstrated Chlorine's value for water purification that all doubt was forever allayed in the public mind.

Today, over 75% of the drinking water of North America is chlorinated and the typhoid rate stands at the lowest in history. "The great purifier" has done its job well. Its merits require no further selling.

But the test of a service is its availability in times of emergency. Solvay's new "Big 3" Liquid Chlorine Service is designed to fulfill that test. Modern plants, the latest production equipment, a well equipped Technical Service Division assure State and Municipal authorities of quick and adequate supplies of Solvay's Liquid Chlorine and good advice and technical assistance when it is required.

Solvay Liquid Chlorine shipments are now routed from Syracuse, New York; Hopewell, Virginia; and Baton Rouge, Louisiana. Your inquiries on Solvay Liquid Chlorine are cordially solicited. Please write to the nearest branch office listed below.

SOLVAY SALES CORPORATION

*Alkalies and Chemical Products Manufactured by
The Solvay Process Company*

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NEW YORK, N. Y.

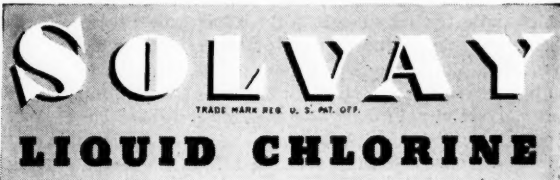
BRANCH SALES OFFICES:

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Charlotte
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Cincinnati
Cleveland
Detroit

New Orleans
New York
Philadelphia

Pittsburgh
St. Louis
Syracuse



The South's Advantages

THE New England Council has published the testimony of Governors of certain New England states given before the Interstate Commerce Commission at the Buffalo hearing of the freight rate case presented by Southern governors. Space will permit using only extracts from the pamphlet, and this is regrettable as its contents are an exceptionally strong presentation of Southern advantages and progress. Editorial comment on the testimony appears on another page of this issue of the MANUFACTURERS RECORD.

Governor Charles F. Hurley of Massachusetts:

"My attention has been directed to the fact that the purpose of this rate case, brought by the Southeastern Governors, is, first, to establish lower rates on manufactured articles moving out of the South into the territory North of the Ohio and Potomac Rivers, and, second, to have established by the Interstate Commerce Commission a principle that all manufactured articles from the South should have a rate equivalent to similar products moving within Northern territory.***

"The point I do wish to emphasize is that the recent growth of the South at the expense of New England is such an obvious economic phenomenon that the primary basis for the Southeastern Governors' petition, namely, their need for industrial advancement, is refuted by the remarkable progress of late years made by the South. They do not need a rate readjustment, in view of what they have been able to accomplish under the existing freight rates.

"Massachusetts has been for generations an industrial State. Its economy is largely based upon industries. It has had to wage a bitter struggle to hold its own in the face of the growing competitive threat of the Southeastern area of this country. For an administrative tribunal to further the rise of an industrial competitor at the expense of an existing industrial section would be to pervert the process of rate regulation. I cannot be too insistent in calling attention to the serious threat of industrial disintegration of many of our Massachusetts localities if this unnecessary further stimulus is given to our competitors in the South.

"I have been struck by the figures which indicate that since 1929 there has been a decline in the number of wage earners in Massachusetts, in contrast to an increase in the Southeastern area. Industrial activity in New England, and particularly in Massachusetts, as compared with the South, has not been hold-

ing its own for many years."

Governor George D. Aiken of Vermont:

"The greatest competition which the stone industries of Vermont endeavor to meet is that from the South. I am informed that on August 15th, 1934, the rates on stone were adjusted, using the then existing conditions as a basis for the adjustment. This adjustment was directed by the Interstate Commerce Commission after extensive hearings and a thorough investigation of the stone business both North and South. While I have no knowledge of rate technicalities and only a general knowledge of conditions as regards the stone industry, in view of the marked increase in southern production shown by the Bureau of Mines report, the principles of common sense would, in my mind, show no justification for a revision of the existing rates in favor of the Southern shippers.

"It is obvious enough why Southern producers of stone can sell their product for a price well under that of Northern producers. Climatic conditions in Vermont are extremely difficult. The quarries in Vermont are handicapped on account of snow and ice which add to the cost of quarrying. The climatic conditions of the South permit operations practically all the year with little or no loss of time. Our large amount of snow-fall and excessive cold add great cost to the quarrying and manufacture of stone, which the Southern producers do not have."

Governor Wilbur L. Cross of Connecticut:

"While the growth of this class of industry (cotton mills) in the South has been gradual, it has been of a most healthy nature. With all the natural advantages of climate which bring with them materially reduced living costs in fuel, clothing, recreation and food, the South has God-given aids which even the Interstate Commerce Commission cannot match.***

"The fact is that Southern industries have been thriving in recent years even though there is complaint of rate handicap. This is not surprising, since, as I have attempted to point out, Southern producers have distinct advantages over their Northern competitors in every element which enters into the cost of production. Accordingly, it does not seem to me equitable that the Commission should, in the light of all the advantages, free the complainants of what they claim is the lone disadvantage."

Is It A Crime To Work?

(Continued from page 29)

Let children lie in bed late (a good practice for conjuring up devilment) and get up in search of a "good time" at the expense of Daddy's dollars, and it will be next to a miracle if such children make any worthwhile contribution to the world.

Idleness and non-production on a spending spree will produce the greatest crop of worthless children the world has ever seen.

I am in favor of the motto of the late George W. Childs, "Sine non labore"—he was right, "Nothing comes without labor."

Boys reared on farms have furnished the largest crop of worthwhile men. Why? Because in their early years they had to feed the chickens, drop corn, thin corn, go on errands, wait on the father and mother, have their own little patches and gardens and produce something. The child that does not produce something besides play may later on "play the devil."

Produce, and produce, and keep on producing until we are submerged with all the good things of life.

We can then export the surplus at a cost that will defy competition and thereby build our own muscles, make our own money, strengthen our own morals and bless our own brains. We can do this any day we wish to go to work.

When the United States was plowing under wheat, Italy was paying in the city of Milan over \$2.50 a bushel.

We have been, and are, in a mad-house. We are feeding millions of people out of tax-payers' money while the people do nothing. This is destructive of the public treasury, a great injury to private business, and paralyzing to those who are being fed without work.

This method of restriction of production, creating artificial high prices, placing the burden on the few instead of distributing it to the whole society, is a combination of insanity and theft.

The United States can feed the world, yet while we are plowing under, doing nothing, and destroying, millions in the world are starving and then we satisfy ourselves by great political speeches styling ourselves a "Good Neighbor."

We seem to think if we can, by legislative manipulation, put high prices on all we need we can have prosperity.

No legislative manipulation can ever put us on a permanent basis of prosperity. *Nothing but sweat will do it.*

FOR BURNING PULVERIZED COAL—
Catalog No. PC-5—"C-E Direct Fired systems for Burning Pulverized Coal," illustrated.
Combustion Engineering Company, Inc.,
200 Madison Avenue, New York.

ROLLER CHAINS AND SPROCKETS—
Catalog No. 333—"REX Roller Chains and Sprockets," illustrating and describing these products and showing applications.
Chain Belt Company, Milwaukee, Wis.

Tank Builders For Over 80 Years!

"WILL HOLD WATER"—
A Universal TEST



That's what they're made for!
All our tanks are given the cold water, soap and air pressure tests to insure against leakage. Let us figure on your tank needs. Tell us your specifications or requirements—Send your specifications or write for "Tank Talk"—No. 12-D.

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TANKS & TOWERS
• NEWNAN, GEORGIA •

TANKS

Made to your specifications of steel, stainless steel, stainless clad, monel, nickel, nickel clad, copper, aluminum and alloy metals.

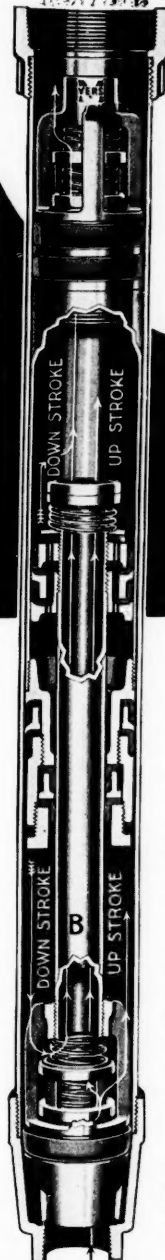
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From 1/16" to 1" in thickness

Our 25 years of experience in fabricating pressure and non-pressure tanks, smoke stacks, smoke breechings, hoppers, bins, chutes, storage heaters, instantaneous heaters, condensers and kindred equipment is at your command.

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RICHMOND — VIRGINIA

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of SALES
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Satisfaction
with
MYERS
DOUBLE
ACTING
CYLINDERS



Today Myers brings you the most modern, the most dependable double acting cylinders on the market. There is nothing experimental about them. Designed by experts, built to precision standards, their reputation for dependable and economical service is firmly established in pump circles the country over.

Whether conditions are regular or otherwise, Myers Double Acting Cylinders satisfactorily solve most deep well pumping problems. They furnish the plus volume of water that lowers pumping costs and satisfies the most critical of users.

If you require more water from any source at lower cost than is possible to secure by ordinary methods write us for circular and complete information.

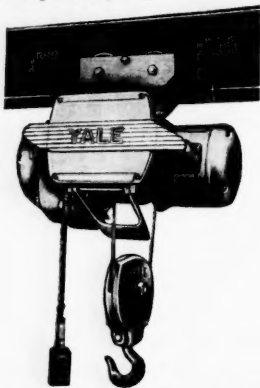
THE F.E. MYERS & BRO. CO.
ASHLAND, OHIO

PUMPS - WATER SYSTEMS - HAY TOOLS - DOOR HANGERS

New Ways of Doing Things

Air-Cooled Electric Hoist

Recording an advance in the design and manufacture of hoisting equipment, The Yale & Towne Manufacturing Company, Philadelphia Division, Philadelphia, Pa., announces the "Cable King" Wire Rope Electric Hoist, which incorporates in its construction the maximum in ruggedness and strength; simplicity in design, operation and maintenance; standardized interchangeability of repair parts; practical provisions for "air cooling"; small overall dimensions; maximum practical use of ball or roller bearings; high overall efficiency, and other important features. Excess brake heat is overcome by the mechanism of its braking equipment, which is described in detail in literature which the company is now distributing. All units and types of these hoists are regularly furnished for adaptation in the field for hook or lug suspension; plain or hand geared eye-beam trolley suspension; for special monorail systems; motor trolley suspension, etc.



Yale Air-Cooled Electric Hoist

Sterling Engines at Power Show

Among outstanding exhibits at the National Exposition of Power and Mechanical Engineering, being held at Grand Central Palace, New York, from December 5 to 10, inclusive, is an exhibit in Space 64 on the main floor, displayed by the Sterling Engine Company of Buffalo, N. Y. This exhibit consists of a Sterling PETRAL 6 cylinder stationary engine, approved by the Associated Factory Mutual Fire Insurance Company, and the National Board of Fire Underwriters, for direct connection to fire pumps at 1750 R. P. M. The engine is of 5½-inch bore, 6-inch stroke, with a rating of 170 H. P. at 1750 R. P. M., built with great attention to balance of centrifugal and inertia forces to make this speed practicable. The engine is uniformly built with dies, jigs and fixtures, so that each engine is an exact duplicate of its predecessor. After years of service any part ordered for replacement will fit accurately, without re-machining or filing.

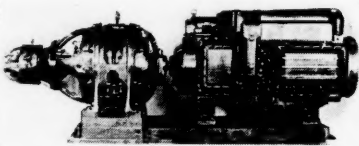
Other sizes of Sterling engines partake of similar characteristics, and all are ap-

proved by Underwriters' Laboratories. The larger of the engines is run normally at 1200 R. P. M. Engines are also built to operate on natural gas for continuous service at 900 R. P. M. While the Sterling Power Show exhibit includes one of the smaller types, the large VIKING series is on display at the company's New York office, 900 Chrysler Building.

Prominent in the Sterling exhibit is the Sterling Crankless, internal combustion, compression ignition oil engine, which is rated for continuous service on 135 H. P. load at 1200 R. P. M. Sterling Crankless Diesels have been thoroughly tested in marine and stationary installations in the past several years, and are now in production. The engine is a horizontal unit, employing four cylinders with 8 pistons working parallel to the main shaft. Power is delivered from the pistons through a Michell or Kingsbury Thrust Bearing to an inclined power disc rigidly fixed at an angle to a straight shaft, much stronger than a bent, or crankshaft, as employed in conventional vertical engines. Manifold advantages have been gained by the elimination of cylinder heads, cylinder head gaskets, valves, camshafts, springs, rocker arms, and tappets.

Center of gravity of the engine is lower than in other types of similar horsepower and speed, and the engine itself is compact and accessible. Piston and connecting rods move horizontally, and there is no regular motion to the latter, which reciprocate in a straight line without side-pull on the pistons. While the engine works on the 2 cycle principle, it should not be confused with the conventional 2 cycle engine, in that Sterling pistons perform the functions of valves, uncovering the air intake or scavenging air ports and also the exhaust ports in timed sequence, and not simultaneously as in the conventional 2 cycle engine.

Sterling Crankless Engines are retained on test at Buffalo for demonstration, and the yacht SILVERHEELS, owned by C. A. Crique, president of Sterling Engine Company, is equipped with one. The yacht is now enroute from Buffalo to Miami, Florida, demonstrating the engines at the principal seaports enroute.



Sterling Crankless Diesel Engine

Aluminum Surfaced Roofing

The transmission of heat through Certain-Teed's Aluminum Surfaced Roofing and Shingles (with ceramic granules), as compared with this transmission through comparable samples without the aluminum granules is notably slower and more difficult, according to Certain-Teed Products Corporation of New York, N. Y., manufacturers of Certain-teed roofing

and shingles. As bearing on the insulating qualities of the product, it is claimed that no matter on which side of the roof heat is applied, the effect is observable and that the roof holds heat inside during the winter and keeps it out in the summer. The roof is made with new improved ceramic granules that expose their flat sides to give a brighter metallic finish, while a new process delivers the aluminum more evenly over the granules.

Dodge Announces Diesel Engine

Following an extended period of publicized experimentation, Dodge Truck Division of Chrysler Corporation, Detroit, Mich., announces a Dodge-built Diesel engine for its 3-ton trucks, the unit representing years of intensive work in the Chrysler engineering laboratories. The new engine is a full compression-ignition Diesel of 331-cubic inch displacement, with torque and power ratings of 226 pound feet at 1000 r.p.m. and 95 horsepower at 2600 r.p.m. A 14.5 to 1 compression ratio is used. Of 6 cylinder, 4 stroke cycle type with 3¼-inch bore and 5-inch stroke, the engine, in its general dimensions, mountings and crankcase structure, is identical with the Dodge 3-ton truck gasoline engine, which permits notable economies in the manufacture and chassis installation. The design embodies such well known Dodge features as full length water jackets, valve seat inserts, by-pass thermostat and chain driven camshaft. The cylinder block is of nickel-moly alloy.

New Gar Wood Load-Packer

Built in various lengths, widths and heights to fit any truck or trailer chassis, a new Gar Wood garbage and refuse unit, the load-packer, has been announced by Gar Wood Industries, Inc., Detroit, Mich. With a modern, sanitary, all-enclosed body, the load-packer compresses, like a hydraulic baler, all kinds of bulky rubbish and garbage into a compact mass, full-capacity load much greater in weight than the usual loose load. When the load is compressed, water and other liquids are squeezed out, making the refuse and garbage burn quicker, thereby effecting economy at the incinerator. With its loading trough close to the ground, loading by shovel or by baskets and cans is simplified. Garbage and rubbish are not exposed and odors are confined. A Gar Wood hydraulic hoist dumps the load in the conventional manner, and another set of cylinders opens the endgate to give ample clearance. A retainer plate keeps garbage already packed from falling back into the trough. When the trough is filled, the loading doors are closed and locked, becoming part of the tailgate ram. The valve-operating lever at the rear of the body is then moved and the two compressing jacks thrust the ram, the packing plate and retainer plate, against the garbage in the trough, cleaning it out completely and packing it solidly into the body. Loads are compressed by means of two hydraulic cylinders which operate the ram, this action also cleaning out the trough in readiness for another filling.

NEW Sewer and Culvert Construction

By making concrete pipe on the job with Quinn Forms you give more men more work, can use less experienced labor and produce uniform concrete pipe of highest quality. Recognized standard of all concrete pipe.



QUINN PIPE FORMS

Quinn Heavy Duty and Medium Duty Pipe Forms best for hand or wet process pipe. Give more years of service. All diameters—12 to 84 inches. Tongue and groove or bell end pipe, any length.

WRITE for New Book on Concrete Pipe giving information and prices, valuable tables on production costs, strength tests, Pipe Forms, Pipe Machines, etc. Book sent free.

QUINN WIRE & IRON WORKS 1605 12 St. Boone, Iowa

CREOSOTED TIES, PILING, POLES, POSTS, CROSS ARMS, and LUMBER

WOLMANIZED LUMBER—

Decay and Termite Proof—Can Be Painted

Docks for Ocean Vessels

American Creosote Works, Inc.
New Orleans, La.

Atlantic Creosoting Co., Inc.
Norfolk, Virginia

Plants at: New Orleans; Winnfield, La.; Louisville, Miss.
Savannah, Ga.; Jackson, Tenn., and Norfolk, Va.

GLAMORGAN

PIPE & FOUNDRY CO.

LYNCHBURG, VA.

SAND—GRAVEL—BRICK FILTER GRAVEL

Washed Sand and Gravel for Concrete
Roads and Buildings

Filter Gravel, all sizes—Building Bricks

FRIEND & CO., INC. River St., Petersburg, Va.

CRUSHED STONE

Only highest grades of crushed
LIMESTONE AND GRANITE

Meeting all specifications

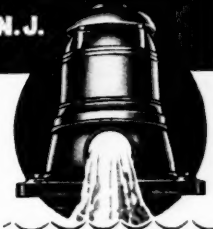
CAPACITY—8000 tons daily

Blue Ridge, Va. Pembroke, Va. Pounding Mill, Va.
Boxley, Gloucester County, Va.

W. W. BOXLEY & COMPANY
Boxley Building, ROANOKE, VA.



27 Layne Well Units FOR THE CITY OF CAMDEN, N. J.



AFFILIATED COMPANIES

LAYNE-ARKANSAS CO. STUTTGART, ARK.
LAYNE-ATLANTIC CO. NORFOLK, VA.
LAYNE-CENTRAL CO. MEMPHIS, TENN.
LAYNE-NORTHERN CO. MISHAWAKA, IND.
LAYNE-LOUISIANA CO. LAKE CHARLES, LA.
LAYNE-NEW YORK CO. NEW YORK CITY
AND PITTSBURGH, PA.
LAYNE-NORTHWEST CO. MILWAUKEE, WIS.
LAYNE-OHIO CO. COLUMBUS, OHIO
LAYNE-TEXAS CO. HOUSTON, TEXAS
AND DALLAS, TEXAS
LAYNE-WESTERN CO. KANSAS CITY, MO.
CHICAGO, ILL., MINNEAPOLIS, MINN. AND
OMAHA, NEBRASKA
LAYNE-BOWLER NEW ENGLAND COMPANY
BOSTON, MASSACHUSETTS
INTERNATIONAL WATER SUPPLY LTD.
LONDON, ONTARIO, CANADA

Definitely knowing that their one-hundred small driven Morris Station wells were costly to operate, inefficient, and inadequate for either present or future needs, the City of Camden, N. J., placed their water problem before the Layne New York Company. In 1922 a contract for 6,000,000 gallons daily (four wells) was awarded. Highly satisfied with the splendid efficiency and low operating cost of the first four wells City Authorities contracted for 10,000,000 gallons more per day. Five more Layne Well Units were installed. In 1925 nine of the Morris Station wells were Layne Gravel Wall equipped, adding another 17,000,000 gallons per day.

In all, Camden now has twenty-seven Layne Unit Wells with a capacity of 45,000,000 gallons per day. High efficiency due to Layne Pumps and Well Engineering features, gives Camden water at a cost of 1.5c per 1,000 gallons. \$200,000.00 a year from the Water Division's net profit are annually returned to the City's general fund.

Such problems as faced Camden may be similar to your case. More details of how Layne Well Units give more water—at lower cost, will be sent gratis. Address LAYNE & BOWLER, INC., DEPT. XI, MEMPHIS, TENN.

LAYNE

PUMPS & WELL WATER SYSTEMS

For Municipalities, Industries,
Railroads, Mines and Irrigation

WHEELS ON RAILS MADE AMERICA GREAT



America's greatest progress began with the coming of the railroads. Wheels no longer had to fight ground resistance, machine power replaced animal power; time and distance were shortened. Whitcomb was first to adapt rail haulage to industrial operations. In addition to low upkeep and long life, a Whitcomb Locomotive is efficient. It permits one man to haul one or many cars with economy and dispatch, travels forward or backward without uncoupling, and the operator faces the load at all times.

Whitcomb's long experience in building industrial locomotives, plus Baldwin resources, assure you of the finest in locomotive design and performance. Our large line and many types, permit us to give you unbiased recommendations—equipment suited to your plant layout. Our engineers will survey your haulage requirements without obligating you, and estimate the savings you can expect from Whitcomb haulage.

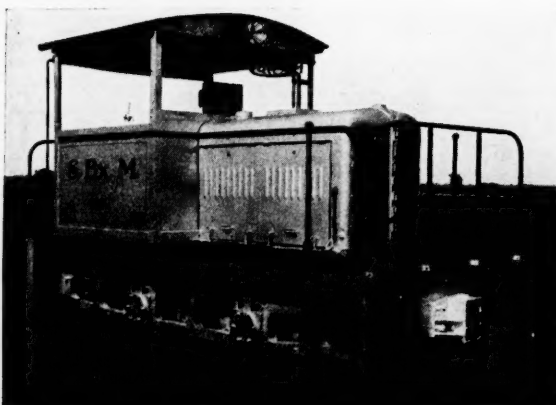
CHOOSE YOUR TYPE OF POWER

Gasoline or Diesel Mechanical Drive
Gasoline or Diesel Electric Drive
Electric Storage Battery
Electric Trolley

THE WHITCOMB LOCOMOTIVE COMPANY

Plant at Rochelle, Illinois

Subsidiary of The Baldwin Locomotive Works. All Sales made by The Baldwin Locomotive Works, Paschall Station Post Office, Philadelphia, Pennsylvania.



WHITCOMB LOCOMOTIVES

» » » *Finance* « « « AND KINDRED SUBJECTS

Excess Reserves

Excess reserves at \$3,350,000,000 have reached an all-time high. Notwithstanding the increases in reserve ratios in the last few years, the amount of money not working has reached a point that is causing many bankers to wonder when there will be a return to normalcy in the demand for funds by business. While their investment portfolios have been expanding to some extent as new issues of high grade bonds have been announced, government securities at the lowest rate of interest known for a long time afford them their principal outlets for idle funds.

Secretary Roper's Views

Daniel C. Roper, Secretary of Commerce, is optimistic over the future for business and industry in this country. He anticipates the national income for the current year will be \$65,000,000,000. Except last year this is higher than that of any year since 1930.

He goes further in stating that with business improving, individual income should not fall as much as 9 per cent from that of last year. He points out that a year ago the business charts were heading downward, while today the country is in a more favorable position to sustain an upward trend. It is his opinion we are in the midst of a broad recovery movement.

Treasury Financing

The Treasury has made final arrangements for financing on December 15 a program that will amount to \$1,642,000,000, of which \$942,000,000 is for refinancing of 1½ per cent Treasury notes maturing March 15. The remainder of \$700,000,000 additional cash is for the purpose of meeting Treasury needs through the current fiscal year.

The Spending Program

Lawrence Sullivan, writing in *The Atlantic Monthly*, said recently: "Public assistance for the needy is today the most extensive and costly function of government in the United States."

Appropriations for local, state and federal direct relief during the calendar year of 1938, he estimates, will total \$2.9 billions, or 17 per cent of all anticipated governmental expenditures, and adds: "No other item—neither public education, national defense, nor postal operations—will reach this figure."

"* * * Public relief expenditures, local, state, and federal, for the five years from March 1933 to March 1938, were \$16.2 billions."

Members of Congress arriving in Washington in advance of the January session who have been interviewed do not express optimistic views about the spending program being continued to the large degree that it has been.

Change the Wagner Law

The pressure upon Congress to change the Wagner Labor Relations Act has grown to such an extent that it is likely the subject will be brought up very soon after the session begins in January. The Grocery Manufacturers of America, at their recent convention in New York, demanded the amendment of the act to cover unfair practices by employees, as well as by employers.

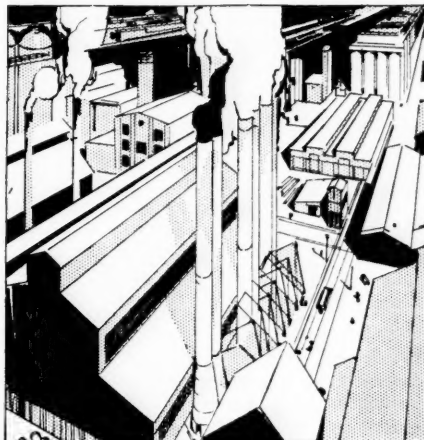
If business is to be helped toward normal functioning, it would seem that one of the first things to be done is to

(Continued on page 48)

In the South's Second Industrial City

Measured by value of products, Richmond ranks second among industrial centers of the South, says the Richmond Chamber of Commerce. By the same measuring rod, Richmond's industrial growth has been greater than that of any other leading Southern industrial center.

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"A Dependable Source of Supply"

"Finance and Kindred Subjects"

Change the Wagner Law

(Continued from page 46)

change a law so utterly one-sided and unfair that instead of accomplishing what was declared to be its aim—the promotion of harmonious relations—it has had the opposite effect.

Seaboard Air Line Railway Earnings

A press release from the Seaboard Air Line Railway shows that net operating income for October of \$191,159 represents an increase of \$103,941 over October 1937, and with one exception was higher than any October's net operating income since 1930.

Freight revenue increased 3.36 per cent over the same month last year and likewise was higher than freight revenue for any October since 1930.

Taxing Chain Stores

The National Association of Real Estate Boards in annual convention adopted by a 2 to 1 vote a resolution condemning Representative Patman's chain store tax bill as a proposal that would disrupt commercial property use and dislocate real estate values.

This action followed a debate by Mr. Patman with Paul H. Nystrom, Professor of Marketing at Columbia University on the question "Shall National Chain Stores be Taxed Out of Existence?"

The National Association of Real Estate Boards represents 50,000 members from 455 federated local boards.

It is expected that the Patman bill will be brought up in the early days of the next Congress.

More than 130,000 property owners are renting stores to chains and are collecting a total of \$450,000,000 in rentals per year.

Imports and Exports

Coincident with the signing of the new trade treaty with Great Britain came the news of a drop in the pound sterling in dollar value to \$4.66. The extent to which this will affect our exports and give an added advantage to British exporters seeking this market is a matter in which our people are concerned.

The Railroads

Carloadings in the middle of November showed an increase for the first time in more than a year over the total of the same period in November 1937. The estimated total was 655,000 cars.

Anything that indicates improvement in the carriers' earnings will be gratifying to the business community, which recognizes the importance of their continuing in private hands. Their condition has been far from healthy for a long time due to the depression, as well as heavy taxes and regulatory laws that have confronted management to an extent never before known. The most probable alternative in the minds of many, seemingly inescapable, is government ownership.

The question of reducing wages has been abandoned for the time being, and unless there is new favorable financing for refunding operations as well as new capital, it looks like it might be necessary, certainly in some instances, to revamp capital structures. Some think that capitalization is not at fault, but that the problem consists of more revenue and less expense. Well and good. But how to produce more revenue and materially reduce expense still leaves the problem unsolved.

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INDUSTRIAL NEWS

Offers Manufacturing Site

R. C. Carden, Jr., Box 65, Richmond, Va., offers for sale a manufacturing site on the Mattaponi River, near West Point, Va., covering an area of 63 acres with a water frontage of 1500 feet. The property was used during the World War by the York River Shipbuilding Corporation for building wooden ships, the site having been selected by the Government as ideal for a large shipbuilding plant. It is connected by a spur track with the Southern Railway and is about 30 miles from Chesapeake Bay, with water, fire protection, sewerage, and power system.

Combustion Engineering Birmingham Branch

Combustion Engineering Company, Inc., New York, N. Y., has opened a branch at 516 Martin Building, Birmingham, Ala., under the direction of J. B. Emory as District Manager, assisted by W. E. Johnson. Mr. Emory has been associated with the company for several years in shop management and sales capacities, and Mr. Johnson has long been identified with the sales of the company's equipment in the Birmingham territory.

Koppers Consolidates Divisions

As another step in the process of corporate simplification which was started two years ago by Koppers Company, Pittsburgh, Pa., the company's Western Gas Division of Fort Wayne, Ind., has been absorbed by its Bartlett Hayward Division, Baltimore, Md. Sales and engineering activities at Fort Wayne have been moved to Baltimore and consolidated with the Bartlett Hayward organization, the consolidation bringing two of Koppers Company's major manufacturing divisions under a single management. This will enable the organization, it is declared, to provide its customers with more complete sales, engineering and manufacturing services. Walter F. Perkins, vice president of Koppers Company, will be in charge of the combined divisions.

United States Steel Opens New Plant

Named for William A. Irvin, Vice-Chairman of United States Steel Corporation, the new Irvin Works of Carnegie-Illinois Steel Corporation, subsidiary of Pittsburgh, Pa., will be formally opened December 15. The new plant is a major project in the modernization program of United States Steel and is known locally as "the mill on the hill." Principal units are an 80-inch hot strip mill, an 84-inch tandem cold reducing sheet mill, and a 42-inch tandem cold reducing tin mill. These are supplemented by necessary annealing furnaces, pickling and tinning departments. The mills, which were designed to meet a constantly growing demand for a wide variety of flat rolled products, are electrically operated and have an annual capacity of 600,000 tons.

Welding Society Awards

Joseph Walker Meadowcroft, Assistant Works Manager of the Edward G. Budd Manufacturing Company, Philadelphia, Pa., was awarded the Samuel Wylie Miller Memorial Award at the 1938 annual meeting of the American Welding Society, recently held in Detroit, the medal being presented by Dr. H. L. Whittemore, chairman of the Board of Awards. The second presentation of the J. F. Lincoln Award for the best paper representing original contribution to the advancement of the use of welding, was this year made in duplicate to co-authors of the prize-winning treatise—J. C. Hodge and C. R. Sadler—for their paper on "Weldability and Properties of Materials for Casing String." G. T. Horton, president of Chicago Bridge and Iron Works, presented the medals. The Industry and Welding prize, awarded for the winning graduating thesis of senior students in land grant colleges, was won by G. R. Maples, Jr., Alabama Polytechnic Institute.

Manager G-E Plastics Sales

Succeeding K. W. Nelson, recently deceased, W. H. Milton, Jr., has assumed the duties of manager of sales for the Plastics Department of the General Electric Company, Pittsfield, Mass. Mr. Milton was born in Roanoke, Virginia, in 1900, and graduated from Virginia Military Institute in 1920. He joined General Electric soon after graduation.

TRADE LITERATURE

ELECTRIC HOIST—

Booklet—illustrated, devoted to the Yale Cable King Wire Rope Electric Hoist, which is to be announced early in 1939, a product of the most modern design and construction in this type of equipment.

The Yale & Towne Manufacturing Company, Philadelphia Division, Philadelphia, Pa.

CREOSOTE PRODUCTS—

Booklet—illustrated, devoted to Reilly Transote Transparent Penetrating Creosote for preventing insect and fungi destruction of wood.

Pamphlet—illustrating and describing Reilly Creosote Paint for creosoted block floors, which acts as a permanent seal through which neither pitch nor creosote can penetrate, providing a hard dry finish highly resistant to abrasion and wear.

Pamphlet—"What the Business Publications Are Saying About Reilly Creosote Paint For All Creosoted Surfaces."

Reilly Tar & Chemical Corporation, Indianapolis, Ind.

CONCRETE PIPE MACHINERY—

Supplement No. 1—devoted to the McCracken Concrete Pipe Machine, Model T 121. Dual Packer-Head Machine for making plain and reinforced concrete pipe, 4 inches to 36 inches, bell and spigot, tongue and groove—all available with sealrite joint; Supplement No. 2—devoted to the Portable Dual Packer-Head Machine for making concrete pipe 4 inches to 36 inches.

Concrete Pipe Machinery Co., Sioux City, Iowa.

(Continued on page 52)



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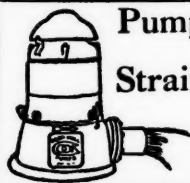
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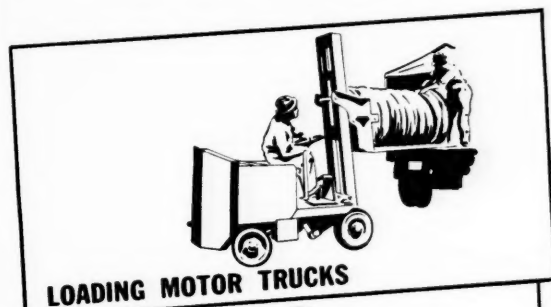
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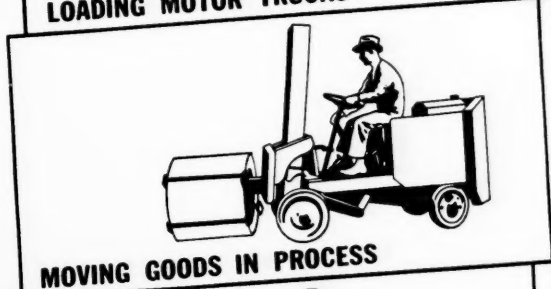
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PIONEERS OF CENTER CONTROL

TRADE LITERATURE

(Continued from page 50)

NORTH CAROLINA INDUSTRIAL DIRECTORY—

Volume—containing names and addresses of all North Carolina manufacturers, executives, number of employees, products, location, etc., with classification of industries, cross-indexed by counties, and alphabetical list by towns of all commercial and manufacturing firms, as well as other helpful information; price \$7.50.

Division of Commerce and Industry, Department of Conservation and Development, Raleigh, N. C.

DIESEL ENGINES—

Booklet—"Job-Test Evidence," illustrating and describing Cummins Diesel Engines and pointing out their economy and efficiency in operation.

Cummins Engine Company, Columbus, Ind.

ELECTRIC HEATERS—

Pamphlet—illustrated, devoted to A. C. F. Berwick Electric Type "L" and Type "LA" Metal Heaters, equipped with electric eyes for temperature control.

American Car and Foundry Company, New York, N. Y.

BETHCOLITE—

Booklet—attractively illustrated, devoted to the production of BethColite, Bethlehem cold-rolled tin plate.

Bethlehem Steel Company, Bethlehem, Pa.

Daniel Willard Rides the Line—Under the above title, G. P. Putnam's Sons, New York, have published a book by Edward Hungerford, a friend of long standing of Daniel Willard, President of the Baltimore & Ohio Railroad, and himself a prominent railroad man, which presents an interesting insight into the many-sided personality of Mr. Willard, who is affectionately known as "Uncle Dan." Beginning with Mr. Willard's boyhood on a Vermont farm, the biography describes how he made his way through school; how he became a railroader, and made a spectacular career in this great American business. While the author rarely digresses from the main theme, he gives the reader fascinating glimpses of what went on behind the scenes in American railroading during the past fifty years. The price of the book is \$3.50.

SAW MILL EQUIPMENT—

Bulletin—devoted to Frick Gauge Wheels and Double-Acting Set-Works for Saw Mills.

Frick Company, Waynesboro, Pa.

CONCRETE INFORMATION—

Pamphlet No. HB 14—"Concrete Industrial Driveways," illustrated, presenting details on a subject that concerns the engineering departments of manufacturers doing heavy trucking.

Portland Cement Association, Chicago, Ill.

FLOORING—

Booklet—"American Hardwood Flooring and Its Uses," illustrated publication prepared by the Department of Commerce, Bureau of Foreign and Domestic Commerce, presenting a complete story regarding

Northern Hard Maple, Beech, and Birch, in addition to other hardwoods; E. C. Singler, Secretary-Manager, Maple Flooring Manufacturers Association, materially contributed to facts included in the publication, which was prepared under the supervision of W. LeRoy Neubrecht, Chief, Lumber and Allied Products Section, Forest Products Division.

Department of Commerce, Bureau of Foreign and Domestic Commerce, Washington, D. C.

SCREW CONVEYORS—

Catalog—illustrating and describing a new Chain Belt screw conveyor and presenting information on screw conveyor installations, selection of screw conveyors, capacity charts, specifications, etc.; also a complete cataloging of REX cast and REX Salem type elevator buckets.

Chain Belt Company, Milwaukee, Wis.

CHROMIUM FURNITURE—

1939 Royalchrome Catalog—illustrated, devoted to Royalchrome Distinctive Furniture, calling attention to many improvements in standard pieces and introducing new lines; featuring natural-color styled installations for the purpose of aiding prospective purchasers to visualize Royalchrome in the interior and assist them in the selection of certain furniture for certain purposes.

Royal Metal Manufacturing Co., Chicago, Ill.

WIRE ROPE—

Office Publication—"The Yellow Strand," illustrated, published for November, 1938, featuring a story on the "Growth of the House of Bruce" (E. L. Bruce Co.), operating nine lumber mills.

Broderick & Bascom Rope Company, St. Louis, Mo.

CRANE RESEARCH LABORATORIES—

Booklet—devoted to the research laboratories of Crane Co., manufacturers of valves, fittings, plumbing and heating equipment, pumps, etc., research work of the company having expanded so that the laboratories now occupy two 2-story buildings with a total floor space of 86,000 square feet and accommodate a personnel of 285, the staff ranging all the way from experts in metallurgy to specialists in the field of ceramics.

Crane Co., 836 So. Michigan Avenue, Chicago, Ill.

LAMINATED SYNTHETIC MATERIAL—

Booklet—devoted to Dilecto, a laminated phenolic material which possesses an unusual combination of insulating and mechanical properties, making it adaptable to a wide range of applications in industry and elsewhere.

Continental-Diamond Fibre Company, Newark, Del.

RYERSON STEELS—

Condensed Steel Stock List and Data Book—handy pocket-size, containing an explanation of the change in steel classifications and extras, general data tables for steel users, summary of products available for immediate shipment from Ryerson stocks, and an illustrated article on the story behind Ryerson Steel-Service.

Joseph T. Ryerson & Son, Inc., Chicago, Ill.

WELDED DOWEL SPACERS—

Folder—illustrated, devoted to Laclede Welded Dowel Spacers, for better transverse and expansion joints in concrete pavements, described as accurate, quickly assembled, easily placed, rigid and economical.

Laclede Steel Company, St. Louis, Mo.

STEEL REPORT—

Booklet—Annual Report of American Institute of Steel Construction, Inc., 200 Madison Avenue, New York, for the year ending Sept. 30, 1938, embracing individual reports of the officers of the Institute, report of the Bureau of Public Relations, Chief Engineer, Director of Statistics, etc.

American Institute of Steel Construction, Inc., 200 Madison Avenue, New York.

CAST IRON PIPE—

Official Publication—"Cast Iron Pipe News" for October, 1938, illustrated, presenting interesting articles and other data on the advantages of using cast iron pipe for various purposes.

The Cast Iron Pipe Research Association, Chicago, Ill.

FOR PIPE USERS—

Pamphlet—"Facts About Republic Standard Pipe," Bulletin Adv. 316, containing bundling tables, sizes and weights, identification and corrosion information on Republic Standard Pipe, Republic Copper-Bearing Steel Pipe, and Toncan Copper Molybdenum Iron Pipe.

Republic Steel Corporation, Cleveland, Ohio.

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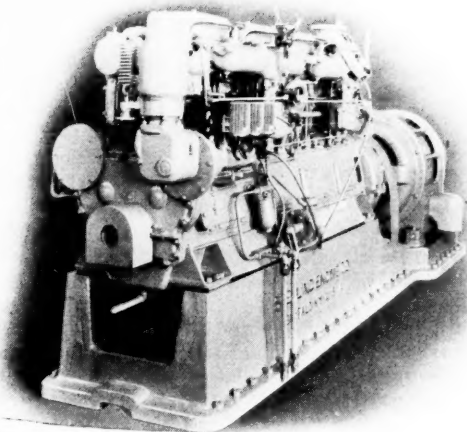
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What Has Been Accomplished by Industry

(Continued from page 30)

wood, metals, slate, ivory, amber, and tortoise shell. The synthetic plastics are used in making beautiful and durable toiletware, costume jewelry, unbreakable tableware, electrical appliances, lighting equipment, buttons and buckles, scuffless shoe heels, windshields for airplanes, motion picture film, radio cabinets and automobile accessories.

Research Tends to Make Us Independent of Foreign Sources of Supply

Nitrates from the air. Until comparatively recent years we were largely dependent upon natural deposits of sodium nitrate found in Chile for the "fixed" nitrogen so essential to agriculture and industry. Nitrates are one of the essential plant foods, while nitric acid, formerly made from Chilean nitrate, is one of the most important industrial chemicals. Within recent years research has developed processes for combining the nitrogen of the air with hydrogen from water to produce ammonia, from which both fertilizers and nitric acid are made. Today, millions of pounds of nitrogen are being extracted from the air each year, and fear of famine due to a shortage of nitrogenous fertilizers has passed.

Camphor from pine trees. Until a few years ago our camphor came from camphor trees which grow on the far-away island of Formosa, owned by Japan; and under Japanese control imported camphor at times reached well-nigh prohibitive prices. Chemists have worked out a successful process by which turpentine from Southern pine trees is converted into camphor suitable for either medical or industrial use. In comparison with \$3.75 a pound for imported camphor in 1918, the synthetic product, chemically identical with that formerly obtained only from camphor trees, sells today around \$0.35 a pound.

Man-made rubber from coal, limestone and salt. For years rubber has been an essential material for modern civilized life, in spite of certain objections such as variable price and quality, and sensitivity to sunlight and oil. Recently chemists developed the synthetic material for which they had long sought, practically according to the specification which had been laid down for it, and produced it from such common basic materials as coal, limestone and salt. While this synthetic rubber-like material called neoprene, is designed primarily for uses that natural rubber cannot meet, it is comforting to know that in the event of a major emergency we could produce in this country, from domestic raw materials, a synthetic product which can be used practically wherever rubber can be used, and

which for many purposes is actually superior to rubber.

Paper from Southern pine trees. Most of our news print paper comes from abroad, but within the past few years the late Dr. Charles H. Herty showed that news print equal in quality to the best foreign stock can be economically made from the southern slash pine. The significance of this development is better appreciated when one realizes that our annual consumption of news print is over 4,000,000 tons, worth about \$180,000,000. Of this amount of news print, more than 80 per cent was imported last year.

Synthetic bristles for brushes. A very recent chemical development is the new "Exton" bristle developed in the laboratories of the du Pont Company. Formerly, all of the bristles used in the manufacture of brushes, of the best quality were natural pig bristles, which came from wild hogs of China, Russia and India. This new synthetic bristle assures us of absolute sterility and relieves us of an uncertain foreign source of supply for natural bristles. In addition, this new synthetic bristle is definitely superior to natural pig bristles in uniformity, appearance and durability.

Research Has Enriched Life for All

Synthetic textile fibers. Within recent years we have seen a chemist's dream transformed into a great new industry. Although rayon was first manufactured in this country only 27 years ago, the United States production of rayon last year was approximately 340,000,000 pounds, an amount sufficient to supply every woman and girl in this country above the age of fifteen with seven dresses, had all this yarn been converted into dress material. In the manufacture of this rayon yarn, more than 50,000 workers were employed.

Beautiful china and glassware, largely imported until a few years ago and available only to the relatively well-to-do, can now be had by all, thanks to developments in the field of ceramics—particularly the development by American chemists of bright, fast ceramic colors.

Research Contributes to Comfort and Safety

New refrigerants for air conditioning. The old refrigerants, like ammonia, are quite satisfactory for the commercial manufacture of ice and certain other industrial applications, but for air conditioning and domestic refrigeration a refrigerant was desired which would not be poisonous, explosive or inflammable. It should also have no odor when mixed with the air even in fairly high concentrations, so that panics would not result in crowded theaters or department stores should a leak occur in the air-conditioning system. This sounded like

a big order, and such it was, but applied science tackled the job and in 1931 synthesized a new family of refrigerants which met every requirement. These new materials, which are fluorinated-chlorinated hydrocarbons, are safe, and because of their safety and efficiency are now widely used in domestic refrigerators and in air-conditioning equipment.

Safety glass for our automobile windows and windshields is made by sandwiching a sheet of tough, colorless, transparent plastic, such as cellulose acetate, between two pieces of ordinary plate glass. This is another outstanding contribution of industrial research to safety, through which, without doubt, many serious injuries have been averted and many lives saved.

A Labor Organization's Views On Taxes

(Continued from page 28)

eral, state and local governments until the actual production price of the simplest commodity is buried beneath the tax superstructure. There are 172 'hidden taxes' in most medicines; 112 'hidden taxes' on shoes; and 157 'hidden taxes' on a funeral. The tax collector exacts pennies, nickels and dimes from the consumer at the rate of \$24,723 a minute, night and day.

"Labor has a direct interest in the successful operation of business upon which it is dependent for employment and wages. The effect of taxation, while an indirect one, is felt in full force by Florida's laboring ranks.

"We believe if taxes were imposed where the consumer could see them; and if they were used for a definite purpose relating to the product or service taxes, such as gasoline taxes, to be used only for roads and other necessities of vehicular transportation; if, in short, the consumer were permitted to know what taxes he is paying, and for what purpose they are being used, there would be a speedy reduction in governmental expenditures and a consequent reduction in taxes."

A large section of the report is devoted to explanatory data on the question of retail trade taxation with particular reference to its application to chain stores under the Patman Act, which labor generally opposes as destructive of a necessary retail outlet.

The work necessary for this report has been evidently patiently and thoroughly done. Figures it presents, not only as to the taxes in retail trade, but applied to the family and to business, are informing and valuable.

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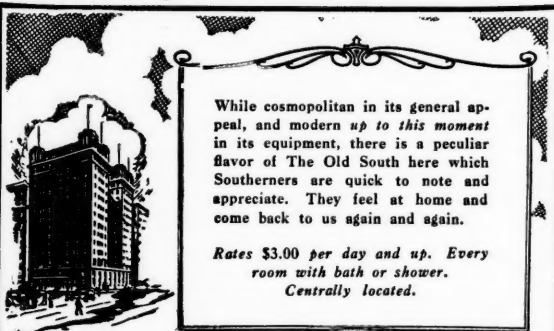
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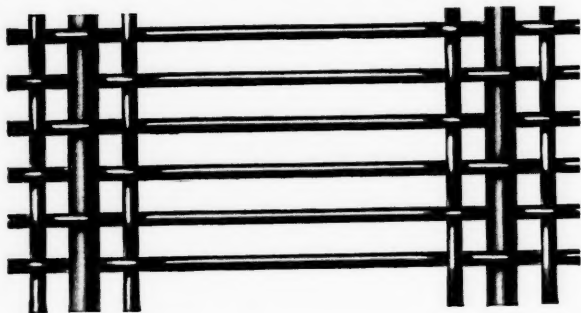
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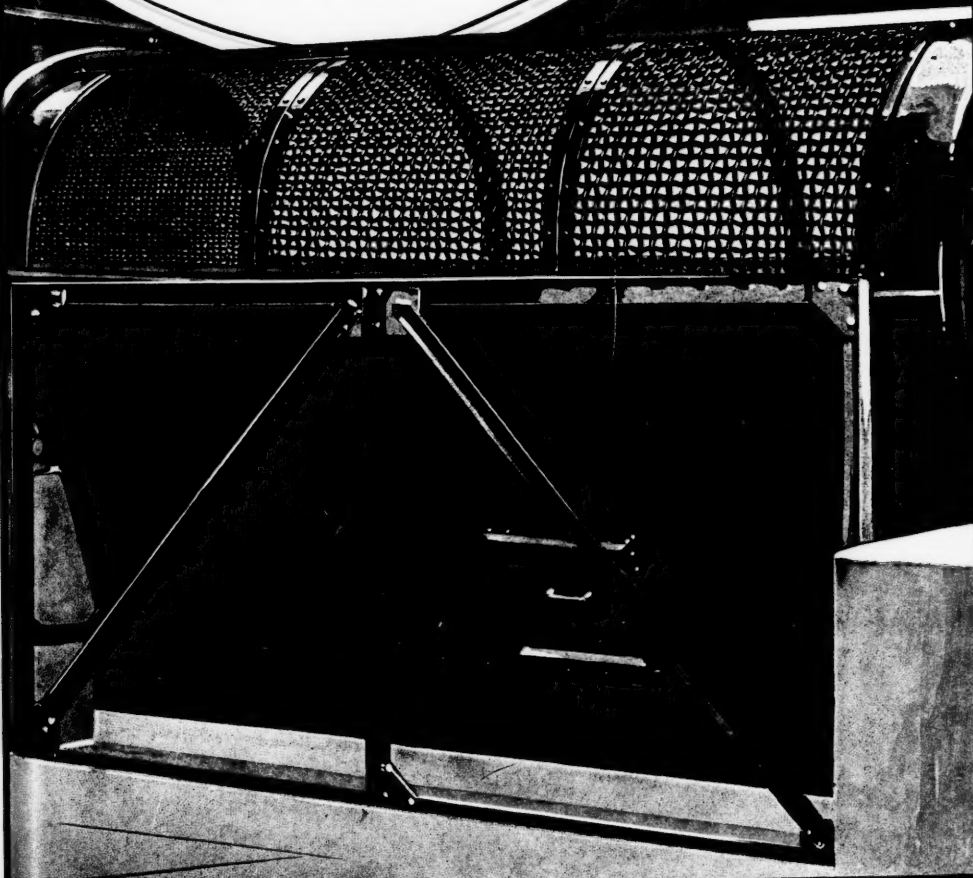
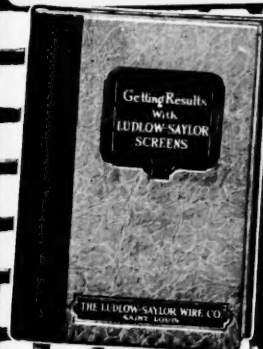
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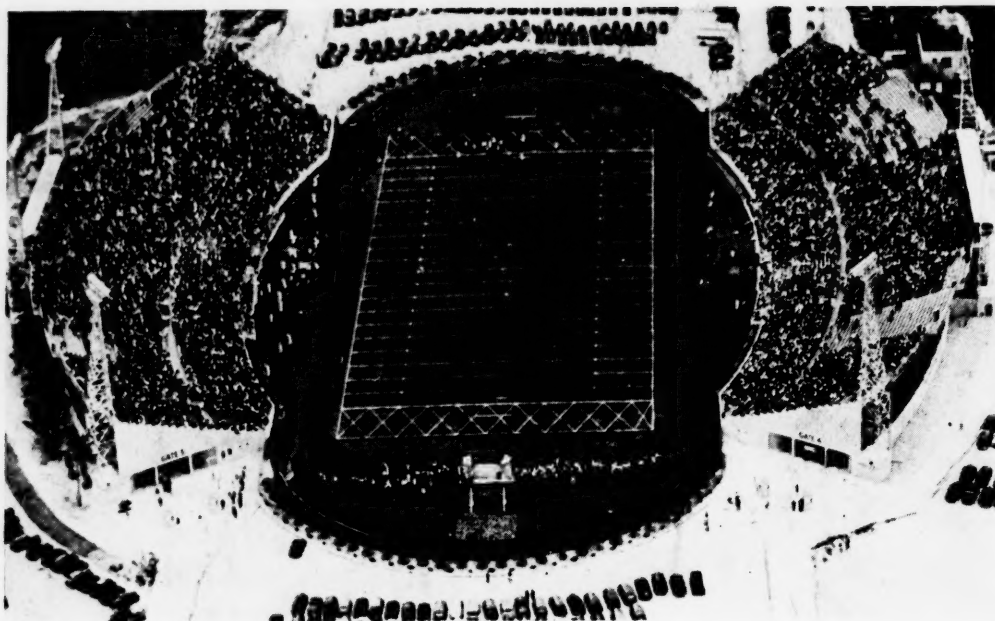


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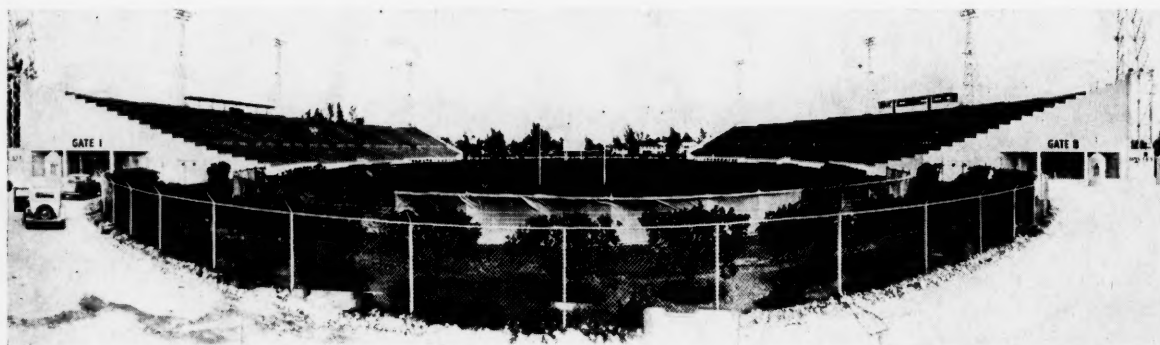
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